State of Rhode Island Pension Review Team
ERSRI Evaluation Report

February 2005

Respectfully Submitted
Jerome F. Williams
Chairman

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II. Overview / Mission / Objectives

Overview:

The 2004 Pension Review Team was initiated by Governor Carcieri through the Department of Administration in October 2003 to conduct a thorough review of the state's public pension plan. At the same time, General Treasurer Paul Tavares and the Rhode Island Public Expenditure Council were to embark on a review of the state's pension system as well. The intent was to take a comprehensive look of the funding and benefit structure and provide recommendations to maintain an equitable pension plan ensuring the long term financial viability of the state's pension system. The Governor believed strongly that the team include representation from administration and constituents of the system. As such, the invitations to participate were sent to the General Treasurer, labor leaders representing state employees/teachers, the Rhode Island Public Expenditure Council and the League of Cities and Towns. Equal representation was established with 6 members from labor and 6 members representing management/ administration.

I would like to take the opportunity to express my appreciation to all of the members of the Pension Review Team for allocating significant time to review volumes of material and provide input to the team in this evaluation of the State's pension system.

Mission:

The mission of the Pension Review Team is to assess the status of the Employees and Teachers Retirement System and provide recommendations to ensure the long term financial integrity of the system while providing an equitable retirement system for its members. The State of Rhode Island expects a retirement system that is fair, affordable to all and financially sound both now and in the future.

Objectives:

In order to achieve the mission of the Pension Review Team, specific objectives were established to ensure that a comprehensive review was completed. In order to achieve its objectives, the team required the services of an actuarial consulting firm to provide expertise in all phases of the review. The Pension Review Team requested the ability to separately contract the services of Gabriel

Roeder and Smith that serves as the actuary for the Rhode Island Retirement Board for the Employees and Teachers Retirement System. This request was approved by the Board as long as certain parameters were included in the review. These included:

- Comparisons with other large public pension plans that will be comprehensive, appropriate, and fair utilizing published studies.
- The comparative analysis will account for tax treatments of retirement benefits
- The analysis will also, when deemed appropriate by the Pension Review Team, account for the costs of the system of adopting policies similar to ERISA.

The team reviewed the types of objectives or phases that would be prudent to meet its mission. Based on extensive discussion by the team, the project was broken up into phases with certain milestones to be achieved. The team needed to compare the system to other large public employee retirement plans, fully understand the retirement system as it exists today, determine the cost drivers of the current plan both now and in the future, model proposed changes to the plan to determine the impact and provide recommendations for any modifications to the retirement system to achieve the goals outlined herein.

Phase I – Comparative Analysis – Public Pension Plans
(Comparison of ERSRI to Other Large Public Pension Plans)

Phase II – Data Analysis – Current Demographics and Status
(Parameters of the pension system and analysis of demographics)

Phase III – Data Analysis – Future Projections based on Trends

Phase IV – Actuarial Modeling of Concepts / Modifications

Phase V – Pension Team Recommendations

III. ERSRI Pension Plan Evaluation

A. Phase I - Comparative Analysis – Public Pension Plans
(Comparison of ERSRI to Other Large Public Pension Plans)

No comprehensive analysis would be complete without the comparison of key components of the State's pension system to other large governmental defined benefit plans. The value of the analysis is to demonstrate the similarities and differences to the norm. This enables the State to factually compare the structure as opposed to using anecdotal information. The interesting fact that the team expected is that simple one-to-one comparisons are extremely difficult considering the number of variables that exist within defined benefit plans. For a true comparison, the team reviewed 1) benefit structures of existing plans, 2) actuarial assumptions, 3) contribution rates, 4) funding status, 5) taxation of benefits, 6) Social Security provisions, and 7) investment rates of return.

Originally the team set out to conduct a comparison of pension systems comparable in size or structure to ERSRI. Acknowledging that surveying other plans would take extensive time and depending on responses may not be comprehensive, the team decided to seek existing surveys and prior written reports conducted of governmental plans. To fully understand the system the team first reviewed the following analytical reports:

1.) Report of the Governor's State Pension Study Commission
(to Governor Noel) - March 28, 1974

2.) Special Legislative Commission To Study The State Retirement System
(Hanaway Commission) - March 1976

3.) State Retirement Systems: Rhode Island Versus The Nation - December 1993

4.) The Special Commission To Study The Alteration Of The Pension System For New Employees
(Dr. Carl commission) - January 1998

5.) 2000 Comparative Study Of Major Public Employee Retirement Systems
(State of Wisconsin study) - 2000

6.) Characteristics Of 100 Large Public Pension Plans
(NEA study) - November 2002

7.) Characteristics Of 100 Large Public Pension Plans
(NEA study) - updated tables and footnotes through June 2003

8.) House Fiscal Public Pension Plan Memo - October 17, 2003

While the earlier studies were informative on the history of the funding and benefit structure leading up to the current pension plan, in regards to verifiable comparative data, the NEA study entitled "Characteristics of the 100 Large Public Pension Plans" proved to be up to date and accurate. For completion of this phase the team utilized this comparative data and produced a summary of its findings.

B. Phase I - Comparative Analysis – Public Pension Plans
(Comparative Analysis Summary Findings)

Data has been taken from the *Characteristics of 100 Large Public Pension Plans*, produced by the National Education Association with updates through June 2003. For plans with multiple tiers, data related to the oldest tier was selected for comparison purposes to the Rhode Island Employees Retirement System (ERSRI).

As the following tables demonstrate, the Rhode Island ERSRI is characterized as having a relatively small number of years of service requirement to retire (28 years with no service discount). Of the 50 plans that provide for retirement at any age, 35 plans or 70 percent required at least 30 years of service to retire. It is also one of a minority of plans (10 of 103), that do not allow for an early retirement with a service discount.

Although 22 percent of plans, including Rhode Island allow vesting after 10 years, a much larger percentage, or 55 percent, allow vesting after a minimum of 5 years. Because the ERSRI has multiple employee contribution rates – 8.75 percent for state employees and 9.5 percent for teachers, it was categorized as such. However, by comparing this information to the 76 plans with single employee rates, it is clear that ERSRI employee contribution rates are among the highest of the plans surveyed. Of the 76 plans with a single rate, only 7 or 9.2 percent had employee contributions of 8 to 8.9 percent. In addition, only 4 or 5.3 percent had employee contributions of 9.0-9.9 percent.

The ERSRI employer contribution rates of 9.6 percent for state employees and 13.72 for teachers were relatively high but not unusual. Of the 80 plans with a single employer rate, 29 plans or 36 percent had an employer contribution rate of 9.0 percent or greater.

In terms of formula multipliers, the most common formula was 2.0 to 2.2 percent per year of service. Since the Rhode Island ERSRI plan is multi-tiered and back-loaded, no direct comparisons can be made since the actual average formula multiplier is dependent upon the number of years worked. However, of the 75 plans that utilized a formula multiplier, 15 plans or 20 percent had a back-loaded formula.

Cost of living adjustments are one of the most difficult comparisons to make. Approximately half the plans do not provide for a fixed formula, but have ad hoc arrangements, are tied to investment surpluses or have a formula linked to age.

Although the ERSRI plan is a fixed 3.0 percent annual adjustment, this does not begin until the third January following the employee's retirement date.

The Rhode Island ERSRI plan is in the minority in terms of full taxation of pension benefits, with 24 percent of all plans falling in this category. Plans that are not subject to income taxes account for the largest percentage of the total with approximately 35 percent. If those with partial exemptions are also included, the percentage increases to 57 percent of all plans.

In terms of financing, the Rhode Island ERSRI does not compare favorably with other plans on the basis of funded ratio. Approximately 76 percent of the 103 plans surveyed had funded ratios that equaled or exceeded 80 percent. The ERSRI funded ratio was 77.9 for the period surveyed.

I. Normal and Early Retirement Provisions

Table I.A.
Retirement at Any Age with Number of Service Year
(Full benefits without early retirement reduction)

Years of Service	20 YOS	25 YOS	27 YOS	28 YOS	30 YOS	35 YOS	Total
Number of Plans	1	7	3	4	28	7	50

Table I. A. Retirement at Any Age (No Benefit Reduction)

Of the 103 large public pension plans surveyed by NEA, 50 permitted retirement at any age, in conjunction with a specified number of years of service. Of the 50 plans allowing retirement at any age, 28 plans required at least 30 years of service. The next most commonly required number of years of service was 25 years of service – 7 plans and 35 years of service also totaling 7 plans. The Rhode Island Employees Retirement System of Rhode Island was one of 4 plans requiring 28 years of service.

Table I. B.

Early Retirement with Benefit Discount

Discount Factor	0-3%	3.1-6%	6.1-9%	Formula	Varies by Age/YOS	Actuarial Reduction	No Early Retirement	Total
Number of Plans	9	31	5	10	21	17	10	103
Cumulative Percentage of Systems	8.7%	38.8%	43.7%	53.4%	73.8%	90.3%	100.0%	

Table I.B. Early Retirement with Benefit Discount

Of the 93 large public pension plans that had an early retirement provision with a benefit discount, 31 plans contained a provision for a discount factor of 3.1 to 6.0 percent annually. This was followed by 31 plans that had varying discount factors that were either tied to age and/or years of service or had a formula provision incorporating multiple components. The next most common discount factor was based on an actuarial reduction and accounted for 17 plans. Only 10 plans, including the Rhode Island/ ERSRI plan did not contain any early retirement provision.

Table I. C.

Vesting Requirements

	Immediate	3 Years	4 Years	5 Years	6 Years	8 Years	10 Years	12 Years	Total
Number of Plans	2	9	4	57	1	5	23	2	103
Cumulative Percentage	1.9%	10.7%	14.6%	69.9%	70.9%	75.7%	98.1%	100.0%	

Table I.C. Vesting Requirements

Of the 103 large public pension plans surveyed by NEA, 57 plans allowed for vesting after a period of 5 years. The next most common vesting period was after 10 years, a provision contained in 23 plans, including both Rhode Island plans - ERSRI and MERS. The remainder of the plans allowed for a range that spanned from immediate vesting to a period of 12 years.

Employer and Employee Contributions

Table II. A.

Percent of Salary Contributed by Employees to Retirement Systems

Percent of Salary	0-.9%	1-1.9%	2-2.9%	3-3.9%	4-4.9%	5-5.9%	6-6.9%	7-7.9%	8-8.9%	9-9.9%	10-10% +	Multiple Rates	Other	Total
Number of Plans	4	1	2	6	6	20	13	11	7	4	2	20	7	103
Cumulative Percentage	3.9	4.9	6.8	12.6	18.4	37.9	50.5	61.2	68.0	71.8	73.8	93.2	100.0	

Table II.A. Employee Contributions as Percent of Salary

Of the 103 large public pension plans surveyed by NEA, 20 plans had employee contributions of 5-5.9 percent and constituted the largest single group. Thirteen plans had employee contributions of 6-6.9 percent, followed by 11 plans with employee contributions of 7-7.9 percent and 7 plans with contributions of 8-8.9 percent. In addition, 6 plans had employee contributions of 3-3.9 percent and 6 plans had employee contributions of 4-4.9 percent. Twenty plans covered multiple employees and had multiple rates, including the Rhode Island ERSRI which had a rate of 8.75 percent for state employees and 9.5 percent for teachers.

As shown in the table above, there were 13 plans with a single rate equal to or exceeding 8.0 percent. While these rates were nearly equal to or greater than the 8.75 percent rate for state employees in the Rhode Island plan, none of the 13 plans participated in the federal Social Security system. Since state employees in the Rhode Island plan also participate in the Social Security system, this would render the 8.75 percent the highest rate for any plan that *does participate* in Social Security *and* has a single plan rate. Plans with multiple rates are shown in the category "other" and may have rates that are above the 8.00 percent cut-off or have some participants that participate in Social Security and some that do not. The ERSRI is an example of a plan that has multiple rates and also mixed participation with respect to Social Security.

Table II. B.

Percent of Salary Contributed by Employers to Retirement Systems

Percent of Payroll	0-.9%	1-1.9%	2-2.9%	3-3.9%	4-4.9%	5-5.9%	6-6.9%	7-7.9%	8-8.9%	9-9.9%	10-10 % +	Multiple Rates	Other	Total	Soc. Sec.	No SS
Number of Plans	5	4	1	2	10	9	7	9	4	10	19	16	7	103	81	22
Cumulative Percentage	4.9	8.7	9.7	11.7	21.4	30.1	36.9	45.6	49.5	59.2	77.7	93.2	100.0			
Soc. Sec.	5	4	1	2	8	9	5	9	4	5	12	13	4	81		

Table II.B. Employer Contributions as Percent of Salary

Of the 103 large public pension plans surveyed by NEA, 19 plans had employer contributions of 10 percent or greater and constituted the largest single group. Ten plans had employer contributions of 4-4.9 percent and 10 plans had contributions of 9-9.9 percent. This was followed by 9 plans with employer contributions of 5-5.9 percent and 9 plans with contributions of 7-7.9 percent. In addition, 7 plans had employer contributions of 6-6.9 percent. Sixteen plans covered multiple employers and had multiple rates, including the Rhode Island ERSRI which had a rate of 9.6 percent for state employees and 13.72 percent for teachers.

In general, retirees in plans with lower employer contribution rates also had social security benefits. However, only 59 percent of plans with employer contributions of 9.0 percent and above participated in the social security program.

III. Retirement Benefit Calculations

Table III. A.

Formula Multiplier/Year of Service

Multiplier	1.1-1.5	1.6-1.9	2.0-2.2	2.3-2.5	2.6-3.0	Back Loaded	Front Loaded	Other	Total
Number of Plans	4	17	25	8	1	15	5	28	103
Cumulative Percentage	3.9%	20.4%	44.7%	52.4%	53.4%	68.0%	72.8%	100.0%	

Table III.A. Formula Multiplier Per Years of Service

The most common multiplier utilized to determine benefits was between 2.0 and 2.2 percent per year of service. This multiplier accounted for 25 of the 103 large public pension plans. The next most prevalent multiplier was 1.6-1.9 percent per year of service, with 17 plans. Formulas containing multi-tiered, back-loaded multipliers, accounted for 15 plans including the Rhode Island ERSRI. A relatively large number of plans accounting for 28 of the total, did not have a formula tied to years of service. This group consists of plans with differing multipliers that are tied to specific dates of service (KY, MD) or may have more complicated formulas with additional career and longevity bonuses (CA) or formulas linked to social security benefits (CT).

Table III. B.

Final Average Salary

Number of Years	2	3	3.5	4	5	Various	Other	Total
Number of Plans	2	66	1	8	16	6	4	103
Cumulative Percentage	1.9%	66.0%	67.0%	74.8%	90.3%	96.1%	100.0%	

Table III.B. Number of Years - Final Average Salary (FAS)

The final average salary is based on either the highest years earnings or the highest consecutive years earnings. The vast majority or 66 of the 103 plans surveyed, utilize a three-year time frame to compute the final average salary. The Rhode Island ERSRI is included in this group. This was followed by 16 plans that utilize a five-year period to compute the FAS.

IV. Pension Benefits

Table IV. A.

Cost of Living Provisions

COLA Type	Fixed 2.5	Fixed 3.0	Fixed 3.1-3.25	Fixed 3.5	CPI Cap-to 3.0	CPI Capped 3.0 +	CPI – No Cap	Fixed Plus	CPI Plus	Other	Total
Number of Plans	1	13	2	1	11	12	2	4	7	50	103
Cumulative Percentage	1.0%	13.6%	15.5%	16.5%	27.2%	38.8%	40.8%	44.7%	51.5%	100.0%	

Table IV.A. Cost of Living Increase Provisions

Approximately one-half of the plans included in the survey had cost of living increases that were either a guaranteed or fixed percentage, a percentage tied to the CPI or a variation of a fixed or CPI component with an additional ad hoc component. Within this group of 53 plans, 13 had a guaranteed percentage equal to 3 percent a year and 11 had a percentage tied to the CPI that was capped at 3.0 percent or less. In addition, 12 plans had a COLA tied to the CPI that was capped at a percentage that exceeded 3 percent and 7 plans had a COLA with a CPI plus additional component. Fifty plans, including the Rhode Island ERSRI, fell into the "other" component. This component includes plans that provide for ad hoc adjustments, that may be subject to legislative or Board approval, adjustments linked to investment surpluses, or other variations such as formulas that are tied to age. The Rhode Island ERSRI was placed in this category due to the fact that the fixed 3.0 percent adjustment does not apply until the third January following the employee's retirement date.

Table IV. B.

Tax Provisions

	No Income Tax	Pension Exempt	Partial Exemption	Tax Credit	Fully Taxable	Other	Total
Number of Plans	11	25	23	3	25	16	103
Cumulative Percentage	10.7%	35.0%	57.3%	60.2%	84.5%	100.0%	

Table IV.B. Tax Provisions

Thirty-six plans or 35 percent of the total, either had no income tax (11 of the 35) or exempt pension income from taxation (25 of the 35). Another 23 plans or 22 percent of the total provided a partial exemption of pension income from tax. Approximately 24 percent of the plans, including the pension income from the Rhode Island ERSRI were fully subject to tax. Sixteen states fall into the "Other" category since exclusions from tax were linked to social security benefits (MD, OR) or were dependent upon age (CO).

V.A. Financial

Table V. A.

Funded Ratio

Ratio	Under 20	50-59	60-69	70-79	80-89	90-99	100-109	110-120	120 +	Other	Total
Number of Plans	1	5	3	12	17	27	23	8	3	4	103
Cumulative Percentage	1.0%	5.8%	8.7%	20.4%	36.9%	63.1%	85.4%	93.2%	96.1%	100.0%	

Table V.A. Funded Ratio

Approximately 26 percent of all plans surveyed had a funded ratio of 90 to 99 percent. In addition, another 33 percent of the 103 plans had funded ratios of 100 percent and above. In total, approximately 60 percent of all plans surveyed had funded ratios of 90 percent or greater. The Rhode Island ERSRI was categorized as “other” due to multiple ratios for the plan - 77.9 for state employees and 77.4 for teachers. However, twelve plans had funded ratios in the 70 to 79 percent range, while 17 had funded ratios in the 80-89 percent range.

C. Phase II – Data Analysis – Current Demographics and Status (Parameters of the pension system and analysis of demographics)

A key objective in any major review project is to fully understand the parameters under which the system is operating. This serves to establish a level understanding of the benefits provided to employees and the statutes or rules governing the administration of the system. In addition, statistical data on the status of the system today serves as a baseline for future discussion and modeling of options. While current information on the system is pertinent, equally important is the analysis of historical data to identify trends, determine the extent of changing demographics as a means to assess market forces and its impact on the financial condition of the system.

The Pension Review Team identified two major components to complete this objective. The first was to create a list of all of the internal data that would be pertinent to the study. The information required from this list would be collected internally by staff supporting ERSRI. The information requested is listed below.

Internal Data Analysis - Retirement System

1) # of retirees
2) Residence of retiree population - taxability issue
3) RI taxes earned on RI retirees (total tax withholding)
4) # of active employees
5) Trends in average age, pension benefit and years of service for retirees (= to age 60, > 28 years)
6) Trend of active employees to retirees (prior 5 years)
7) Trends in average age for active employees, average age of new hires, and years of service (prior 5 years)
8) Actuarial assumptions - maturity, cost method, investment assumptions, wage increases
9) What are the basic requirements to be eligible for pension benefits?
    A.) 28 years of service any age
    B.) greater than or equal to age 60 and 10 years of service
10) What are the vesting requirements?
    A.) 10 years as a contributing member
11) List the types of service that can be purchased by active employees and list any limitations
12) How are pension benefits calculated and what is the maximum benefit?

13) List the participant groups that have social security benefits and those that are integrated to these with the retirement system.
14) How are Rhode Island state pensions treated under tax law?
    A.) taxable under RI state income tax with exception of accidental disability
15) Current budget obligation for pension contributions – employer (state and local) past history over 10 years as a % of payroll
16) List of prior 10 year funding rates and funding status of the system.
17) How are pension costs shared between the employer and employee? How have contribution rates changed over time?

Note: Responses to above items were collected separately for both the state employees retirement plan and the teacher retirement plan.

The second component involved analytical work to be conducted by Gabriel Roeder and Smith. This analysis would result in projections relating to future activity within the pension system based on demographics and trends. In addition, the actuary provided input to the team regarding the major cost drivers of our pension system. Again, the team defined the type of analysis to be conducted and the list is provided below:

Actuarial Data Analysis - Retirement System

1) Number of active employees eligible to retire in next 5 – 10 years and projected rate of retirement
2) Projected retirees vs active (assuming no change in active population) population in next 10 years
3) Given retirement projections, what is the expected long-term financial condition of the retirement system? (up to 10 years)
4) List the participant groups that have social security benefits and those that are integrated with the retirement system. Briefly explain the impact to employee and employer. Provide a discussion letter on this issue.
5) Given that retirement benefits are taxable under RI income tax statutes, how does this impact comparisons with other state plans and how does it impact employee behavior?
6) Provide a 10-year projection on employer contribution rates based on current actuarial assumptions for projections and no benefit changes.
7) Provide a 10-year projection on funded status of the system assuming 100% funding of the rates identified in question 12 above.

8) What would current employer contribution rates drop to if the retirement system were 100% fully funded on an actuarial basis?

Cost Drivers

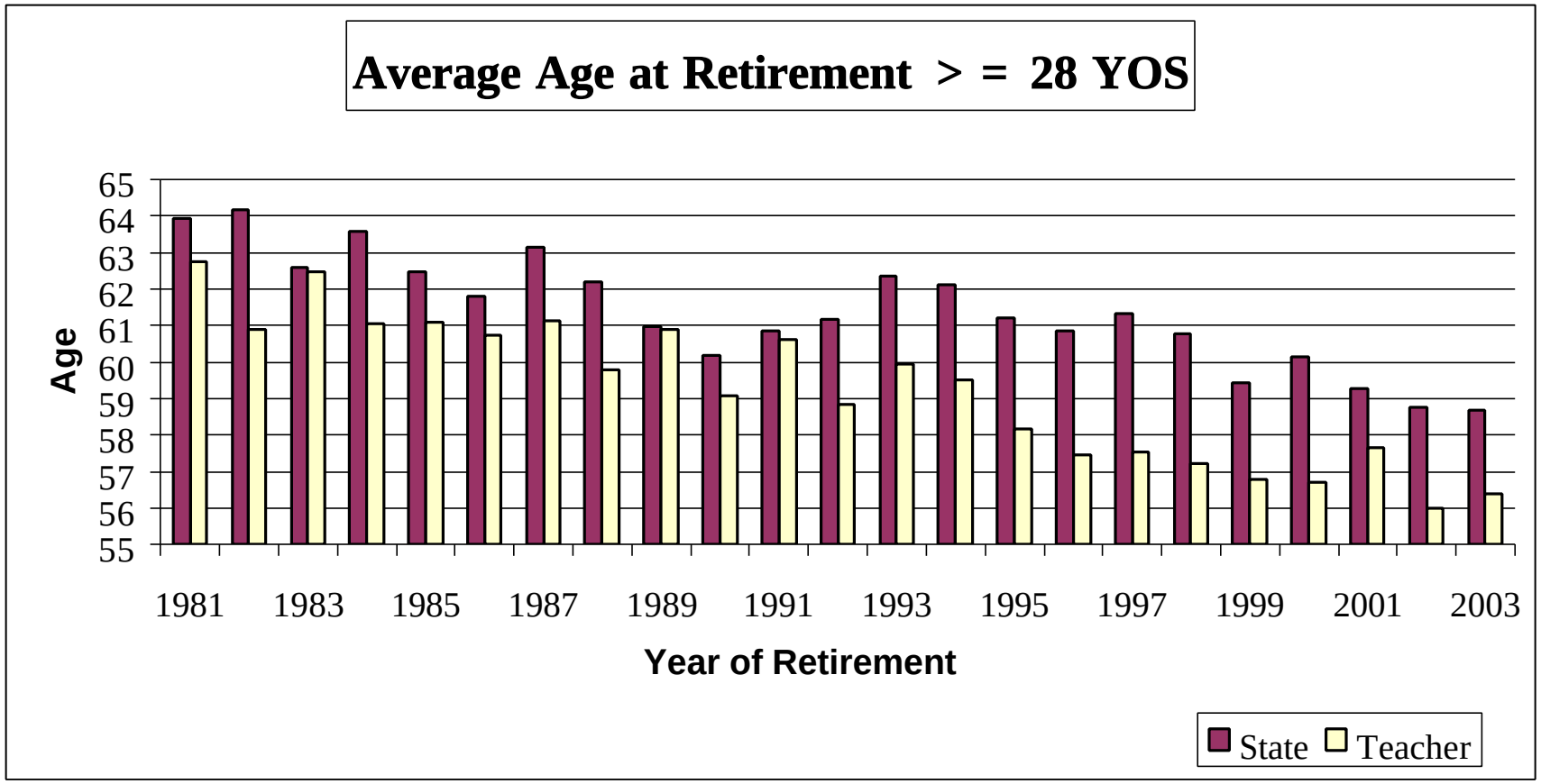
1) Identify cost drivers of the Rhode Island pension plan
   (i.e., eligibility, formula, COLA, unfunded liability)
2) Impact of prior underfunded programs or benefit increases on the unfunded liability of the pension system (1989-current). (ERSRI staff will review back valuation reports since 1989 and will identify those programs with material impact GRS will review the data and offer guidance on the impact).

The completion of this analysis provided some interesting results relating to the current snapshot of the system and more importantly the trends based on demographics.

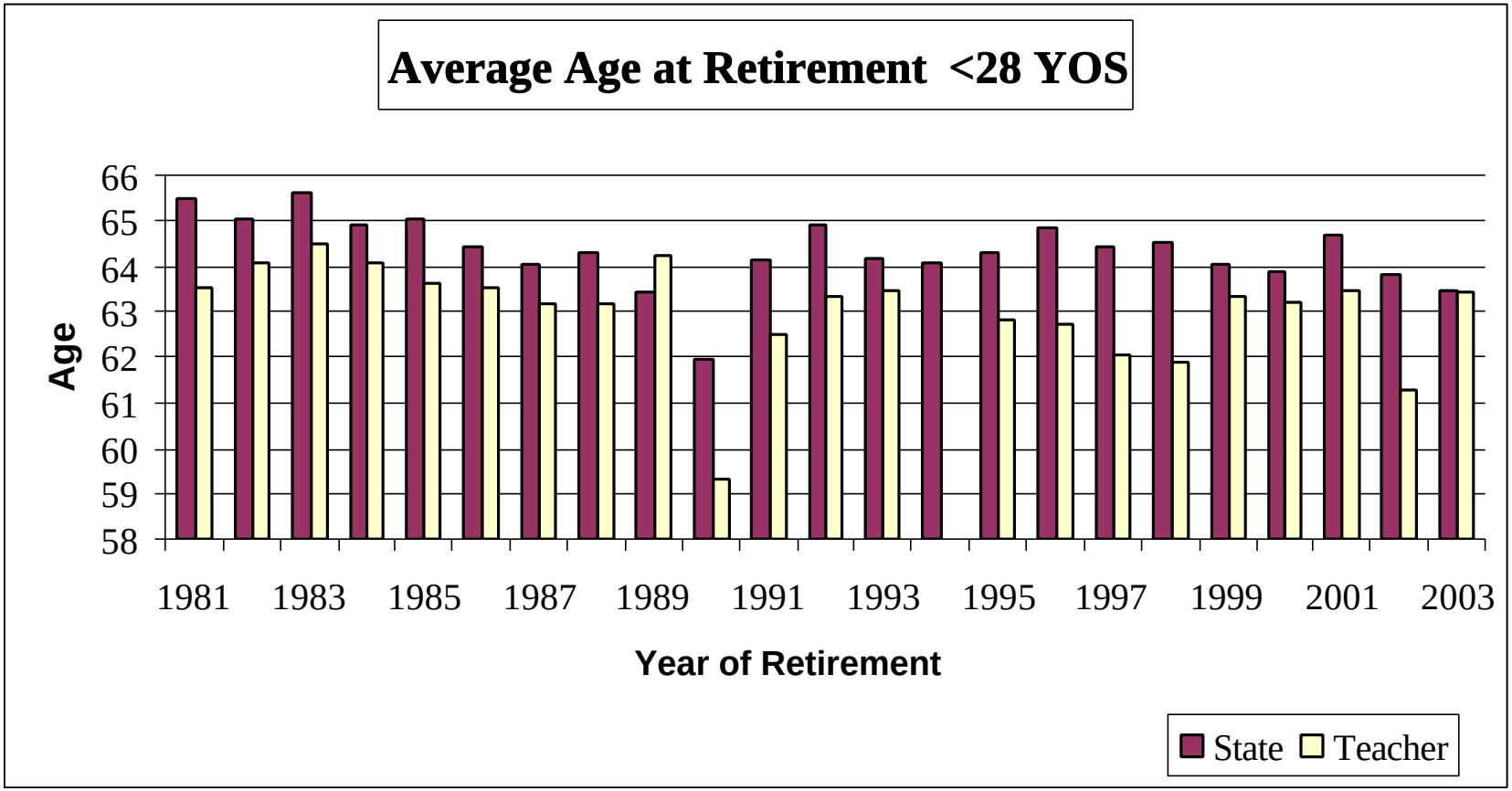
Demographics:

Our current employees retirement system had 13,795 active members and 9,426 retired members as of fiscal year 2002. The truly interesting part is that over the past seven years, the average increase of active members is 1.0% while the average rate of increase for retirees is 1.5%. This ratio is even more dramatic within the teachers retirement system. Active members in the teachers retirement system totaled 14,710 as of 2002 with 7,311 retirees and beneficiaries. The rate of increase of active teacher members was 2.9% since 1996 while the rate of increase in retired teacher members totaled 5.7%. Over time, the State has implemented budgetary control measures (i.e. hiring freeze, FTE caps) that has slowed the growth of state employment. The growth rate of retirees for both state employees and teachers is outpacing the growth rate in active members which impacts the ability to fund the retirement system over time.

The analysis of the average age of retirement provides a better view of the change in demographics that is impacting the system. On the next page, a graph depicts the average age at retirement for those members who had 28 or more years of service at the time of retirement. While there are some peaks and valleys since 1981, for the last decade, the average age at retirement of teachers has dropped from just under 60 in 1993 to approximately 56 and a half as of 2003. For state employees, the average age at retirement has also dropped from 62 in 1993 to just under 59. While this does not in itself seem dramatic the trend as shown on the attached graph demonstrates the continual decline in average age over time which will lead to higher pension payments from the system based on mortality tables.



For those employees who have less than 28 years of service, the trend is not as pronounced and actually is fairly stable. As shown on the next page, since 1993 teachers average age remains stable at approximately 63 and a half. The state employee average age declines marginally from just over 64 to 63 and a half for the same period. This is impacted by the fact that employees with less than 28 years of service must have attained the age of 60 in order to retire.



It's a given that over the past twenty years, the average salaries for both state employees and teachers have increased based on step and cost of living wage adjustments. This obviously has translated into higher average base pensions. Again the graphs shown over the following pages demonstrates this trend. For example for those state employees with less than 28 years of service, the average base monthly pension amounted to just under $800 in 1993 and increased to approximately $1,500 in 2003. For teachers, the increase was lower as the average base monthly pension amounted to approximately $1,500 in 1993 and increased to just over $1,800 in 2003. Again, for those longer term employees with 28 or more years of service, the increase was greater (state

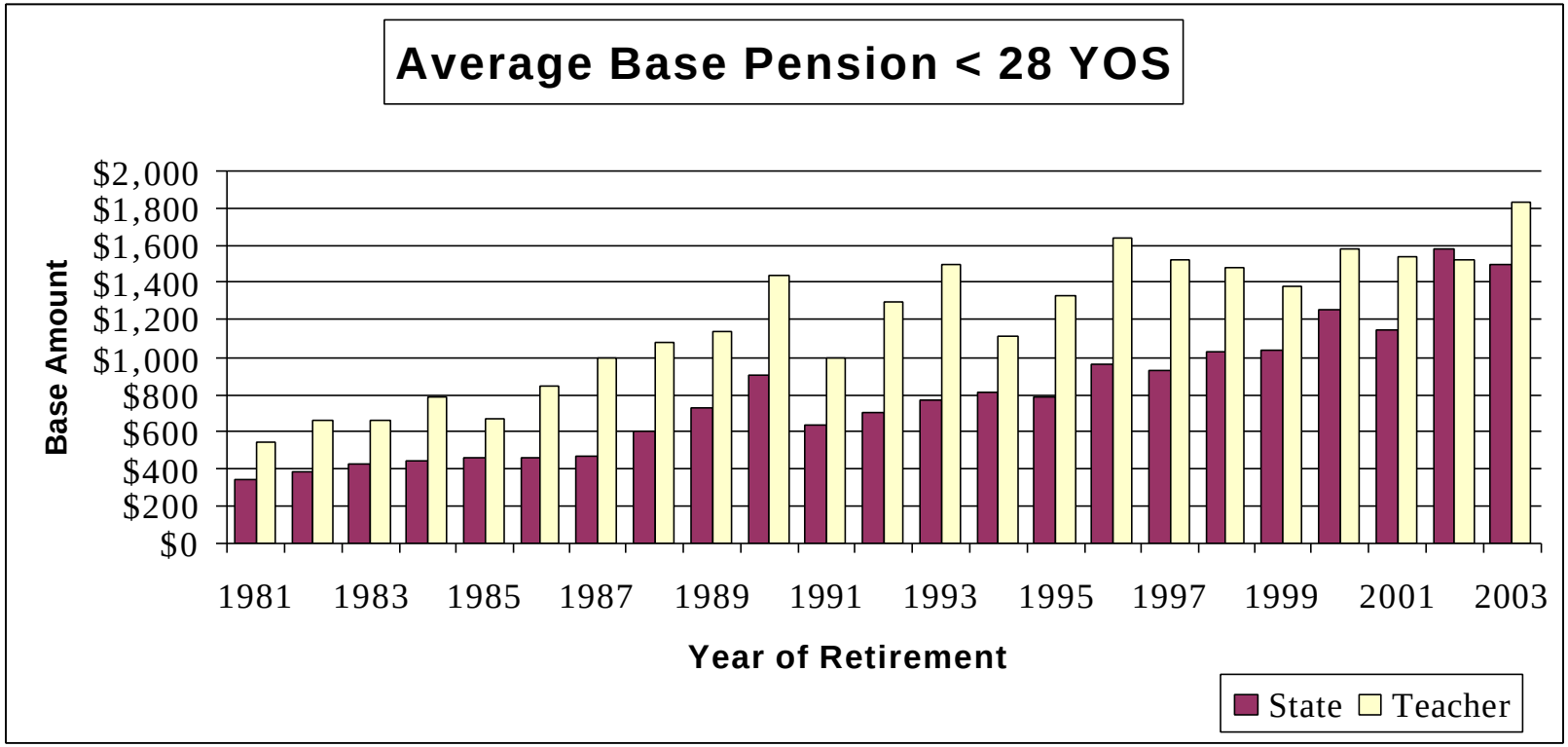
employees monthly pensions in 1993 equaled $2,250 versus $3,150 in 2003 - teachers monthly pensions in 1993 equaled $2,500 versus $3,750 in 2003.

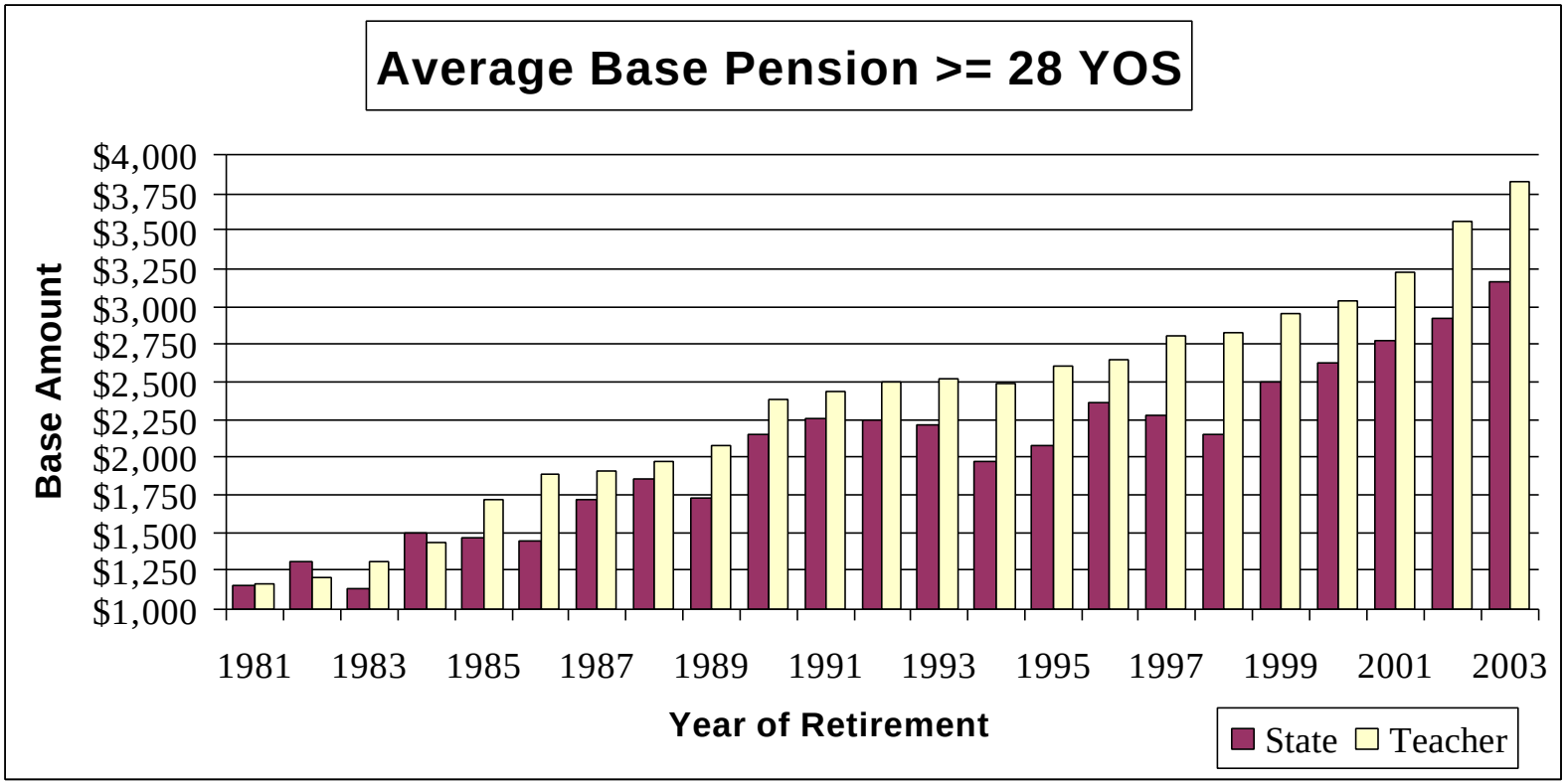
What can be derived from these demographics is that opposing forces are occurring. State employees and teachers are trending down in average age at retirement while at the same time the average base pension is increasing. While the State of Rhode Island may not be alone in this trend it is one of the factors impacting the overall funding status of the system and must be considered in any comprehensive review of the system.

In addition to the changes in demographics, the State of Rhode Island must recognize that historical decisions have impacted the total unfunded liability facing the pension system today. Internal estimates by the Retirement system on the actuarial cost of these decisions over the appropriate amortization period is listed below:

1989 Early Retirement	$ 49,134,700
1990 Early Retirement	$180,000,000
1990-1991 Contribution Deferral	$ 45,706,000
1991-1992 Contribution Deferral	$ 41,270,500

All of these factors are coming together at a time of poor market performance, which is dramatically affecting the financial condition of the plan.


Average Base Pension < 28 YOS
Base Amount
$2,000
$1,800
$1,600
$1,400
$1,200
$1,000
$800
$600
$400
$200
$0
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
Year of Retirement
State
Teacher


Average Base Pension >= 28 YOS
Base Amount
$4,000
$3,750
$3,500
$3,250
$3,000
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$2,000
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1987
1989
1991
1993
1995
1997
1999
2001
2003
Year of Retirement
State
Teacher

D. Data Analysis – Future Projections

Within the actuary's (GRS) scope of work, schedules were prepared providing projections over the next ten years for the current structure and demographics assuming no changes to benefits or funding. This was based on current actuarial assumptions and include the number of currently retired, reduced for expected deaths, and expected future retirements. The future retirements would reflect whether the member was currently eligible for retirement, whether the member would become eligible during the projected time period, the probability of the member remaining in public service until eligible for retirement, the probability of retirement and expected date of death after retirement.

In addition, the actuary prepared a 10 year projection of the assets, actuarial liabilities, contribution rates, funded ratios and other actuarial information. This was developed in an interactive manner allowing the team to modify investment rates of return to determine the impact on contribution levels and funding status based on rates of return above and below the assumed rate of 8.25%. The third set of projections included those assuming the unfunded liability was fully funded resulting in contributions for the normal cost of the system only.

As shown on the following pages, a combination of factors is dramatically impacting the funded status and cost of funding the State's retirement system. The smoothing effect of multi-year investment returns below actuarial assumptions, combined with demographic trends of lower average age at retirement and higher base pensions result in huge increases of employer funding over the next twenty years. The projections amount to an employer contributions rate increase for state employees from 7.68% in 2002 to 16.45% in 2006. For the teachers plan employer contribution rates increase from 11.97% in 2002 to 20.41% in 2006. Even with these increased funding requirements, during the same period the overall funded status of the system deteriorates to just over 57% down from our current ratio of 71.7% (state employees) and 73.2% (teachers).

Under the current structure if no changes are made to the system, the State of Rhode Island will contribute a combined additional $343 million during the period of 2003 through 2006 for both pension plans.

Projection Results Based on June 30, 2002 Actuarial Valuation
Teachers

Scenario #3
Market Earnings: 20% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA	Annual Cost over 2002 levels	Cumulative Costs over 2002 levels
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
2002	3.46%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%		
2003	20.00%	13.72%	815.8	111.9	5,081.1	3,426.7	1,654.4	67.4%	17.94%	2,746.4	54.1%	17.1	17.1
2004	8.25%	14.84%	840.2	124.7	5,306.6	3,351.0	1,955.6	63.1%	20.41%	3,184.1	60.0%	29.9	47.0
2005	8.25%	17.94%	865.5	155.2	5,533.8	3,301.3	2,232.5	59.7%	22.50%	3,336.7	60.3%	60.4	107.4
2006	8.25%	20.41%	891.4	181.9	5,763.1	3,415.4	2,347.7	59.3%	23.10%	3,516.2	61.0%	87.1	194.5
2007	8.25%	22.50%	918.2	206.6	5,994.2	3,656.9	2,337.3	61.0%	22.66%	3,720.3	62.1%	111.8	306.4
2008	8.25%	23.10%	945.7	218.5	6,228.4	3,950.0	2,278.4	63.4%	22.00%	3,950.0	63.4%	123.7	430.1
2009	8.25%	22.66%	974.1	220.7	6,466.7	4,194.8	2,271.8	64.9%	21.99%	4,194.8	64.9%	125.9	556.0
2010	8.25%	22.00%	1,003.3	220.7	6,711.1	4,447.7	2,263.4	66.3%	21.99%	4,447.7	66.3%	125.9	681.9
2011	8.25%	21.99%	1,033.4	227.3	6,961.9	4,706.6	2,255.3	67.6%	21.99%	4,706.6	67.6%	132.5	814.3
2012	8.25%	21.99%	1,064.4	234.1	7,219.0	4,978.2	2,240.8	69.0%	21.98%	4,978.2	69.0%	139.3	953.6
2013	8.25%	21.99%	1,096.3	241.1	7,481.8	5,262.7	2,219.1	70.3%	21.98%	5,262.7	70.3%	146.3	1,099.9
2014	8.25%	21.98%	1,129.2	248.2	7,749.5	5,560.1	2,189.4	71.7%	21.98%	5,560.1	71.7%	153.4	1,253.3
2015	8.25%	21.98%	1,163.1	255.7	8,020.2	5,869.2	2,150.9	73.2%	21.97%	5,869.2	73.2%	160.9	1,414.2
2016	8.25%	21.98%	1,198.0	263.3	8,294.6	6,191.9	2,102.7	74.6%	21.97%	6,191.9	74.6%	168.5	1,582.6
2017	8.25%	21.97%	1,233.9	271.1	8,572.8	6,529.0	2,043.8	76.2%	21.97%	6,529.0	76.2%	176.3	1,759.0
2018	8.25%	21.97%	1,271.0	279.2	8,854.5	6,881.3	1,973.2	77.7%	21.96%	6,881.3	77.7%	184.4	1,943.4
2019	8.25%	21.97%	1,309.1	287.6	9,138.1	7,248.5	1,889.6	79.3%	21.96%	7,248.5	79.3%	192.7	2,136.1
2020	8.25%	21.96%	1,348.4	296.1	9,424.6	7,632.9	1,791.7	81.0%	21.95%	7,632.9	81.0%	201.3	2,337.4
2021	8.25%	21.96%	1,388.8	304.9	9,713.8	8,035.5	1,678.2	82.7%	21.94%	8,035.5	82.7%	210.1	2,547.5
2022	8.25%	21.95%	1,430.5	314.0	10,006.6	8,459.0	1,547.6	84.5%	21.94%	8,459.0	84.5%	219.2	2,766.7

Projection Results Based on June 30, 2002 Actuarial Valuation
State Employees

Scenario #3
Market Earnings: 20% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA	Annual Cost over 2002 levels	Cumulative Costs over 2002 levels
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
2002	3.46%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%		
2003	20.00%	9.60%	604.5	58.0	3,422.8	2,253.8	1,169.0	65.8%	14.26%	1,809.1	52.9%	13.0	13.0
2004	8.25%	11.51%	622.6	71.7	3,564.0	2,191.2	1,372.8	61.5%	16.45%	2,083.4	58.5%	26.6	39.6
2005	8.25%	14.26%	641.3	91.5	3,706.5	2,152.6	1,553.9	58.1%	18.28%	2,176.3	58.7%	46.4	85.9
2006	8.25%	16.45%	660.5	108.6	3,849.6	2,220.3	1,629.3	57.7%	18.81%	2,286.3	59.4%	63.6	149.5
2007	8.25%	18.28%	680.4	124.4	3,992.0	2,369.1	1,622.9	59.3%	18.42%	2,410.7	60.4%	79.3	228.8
2008	8.25%	18.81%	700.8	131.8	4,133.5	2,548.9	1,584.5	61.7%	17.83%	2,548.9	61.7%	86.7	315.6
2009	8.25%	18.42%	721.8	132.9	4,273.7	2,693.3	1,580.4	63.0%	17.82%	2,693.3	63.0%	87.9	403.4
2010	8.25%	17.83%	743.5	132.5	4,412.9	2,838.2	1,574.7	64.3%	17.82%	2,838.2	64.3%	87.5	490.9
2011	8.25%	17.82%	765.8	136.5	4,551.2	2,982.0	1,569.1	65.5%	17.82%	2,982.0	65.5%	91.4	582.3
2012	8.25%	17.82%	788.7	140.6	4,687.6	3,128.6	1,559.0	66.7%	17.82%	3,128.6	66.7%	95.5	677.8
2013	8.25%	17.82%	812.4	144.8	4,822.4	3,278.5	1,543.9	68.0%	17.81%	3,278.5	68.0%	99.7	777.5
2014	8.25%	17.82%	836.8	149.1	4,954.9	3,431.6	1,523.2	69.3%	17.81%	3,431.6	69.3%	104.0	881.5
2015	8.25%	17.81%	861.9	153.5	5,085.2	3,588.8	1,496.5	70.6%	17.81%	3,588.8	70.6%	108.4	989.9
2016	8.25%	17.81%	887.7	158.1	5,213.3	3,750.4	1,463.0	71.9%	17.80%	3,750.4	71.9%	113.0	1102.9
2017	8.25%	17.81%	914.4	162.8	5,338.3	3,916.3	1,422.0	73.4%	17.80%	3,916.3	73.4%	117.7	1220.7
2018	8.25%	17.80%	941.8	167.7	5,460.3	4,087.5	1,372.8	74.9%	17.79%	4,087.5	74.9%	122.6	1343.2
2019	8.25%	17.80%	970.0	172.6	5,579.1	4,264.5	1,314.7	76.4%	17.79%	4,264.5	76.4%	127.6	1470.8
2020	8.25%	17.79%	999.1	177.8	5,694.8	4,448.3	1,246.6	78.1%	17.78%	4,448.3	78.1%	132.7	1603.5
2021	8.25%	17.79%	1,029.1	183.1	5,808.2	4,640.6	1,167.6	79.9%	17.78%	4,640.6	79.9%	138.0	1741.5
2022	8.25%	17.78%	1,060.0	188.5	5,920.0	4,843.2	1,076.8	81.8%	17.77%	4,843.2	81.8%	143.4	1885.0

III. Actuarial Modeling Overview

The pension team was deliberated on parameters for potential benefit or funding models. These parameters were then provided to the actuary who conducted an actuarial analysis to determine the level of enhancement to the long term financial viability of the state and teachers retirement funds. In addition, the team reviewed the impact of the models on the members of the retirement system.

Significant discussion was held at numerous meetings of the team regarding the types of models that would be run. It was important to note that during this phase no pre-conceived decisions were formulated. All models were considered with the intent to narrow the modeling down to one or two components that the team can either recommend together or vote on at the end of the review process.

Initially, the team suggested a large number of models to review. These included the following:

Models are to be run for three employee groups

- New employees only
- Employees hired after 01-2000
- New employees and non-vested employees assuming a five year vesting
- All active employees

Test the following variables

Five year vesting (with retirement eligibility after 5 years and at least age 60
All purchased service credits requiring full actuarial payment
Minimum age for retirement eligibility set at 60 years of age with 30 years of service
Minimum age for retirement eligibility set at 60 years of age with 32 years of service
Minimum age for retirement eligibility set at 58 years of age with 30 years of service
Minimum age for retirement eligibility set at 55 years of age with 20 years of service but reduce the retirement benefit by ½ % per month or 6% per year
Retirement at any age after 30 years of active service credits (excludes purchased service credits for eligibility but includes the purchased service credits for total pension)

COLA set at CPI and capped at 3% annually

Formula modified to the following:

Years of Service	Formula
5	1.7%
10	1.9%
10	2.2%
10	2.3%

Formula modified to the following:

Years of Service	Formula
5	1.7%
15	2.0%
10	2.5%
5	2.0%

Formula modified to the following:

Years of Service	Formula
10	1.6%
10	1.8%
5	2.0%
5	2.25%
6	2.50%

Modify the contribution rate and maximum allowed benefit to account for Social Security participation vs. non-Social Security participation (for new hires only).

As a first step toward defining those scenarios to be studied further, the actuary provided single year changes to the employer rate as a means to determine if the financial impact was of significance to warrant a twenty-year projection. All of the models were compared to the base line which was the employer rate as determined by the 2002 valuation for the July 1, 2004 period. Based on the information above, the results of the modeling is shown below:

A. Modeling Results

The Pension Review Team secured the services of Gabriel, Roeder, Smith & Company (referred to as the Consultant hereafter) to model the State's pension systems, building into the models the capacity to adjust a series of assumptions to accommodate requests from members of the Pension Review Team.

The Consultant used the June 30, 2002 actuarial valuation data as the starting point for developing the models. It used membership data from this valuation as well as assumed there has been no change in the number of active members. As models were developed, the actual investment results for FY 2003 were made available and built into the model. All of the actuarial assumptions and methods used were those developed for the June 30, 2002 actuarial valuation. While the modeling was conducted using these assumptions, it should be noted that in July 2004, the Actuary provided updated information based on an experience study that modified some of the assumptions. The 20-year modeling projections as well as the final recommendations listed in this report reflect the final assumptions approved by the Retirement Board in September 2004.

Baseline Analysis - Because the Pension Review Team explored a range of potential changes to the pension system, the Consultant established a baseline model for both State employees and teachers. This baseline was critical in order to understand the incremental changes and their impacts to the projected system as it currently exists.

The Baseline for both State employees and teachers assumed a market return of 8.25 percent in FY 2005 and thereafter. This reflects current assumptions established by the State Retirement Board. The model incorporates actual market experience of 3.46 percent in FY 2003 and 20.0 percent in FY 2004.

In FY 2005, which will be used as the baseline for analysis in the following discussion, the employer contribution rate for State employees is 11.51 percent of compensation, estimated at $622.6 million. This translates into an estimated contribution of $71.7 million in FY 2005. The employer contribution rate for teachers is 14.84 percent of compensation, estimated at $840.2 million. This translates into an estimated contribution of $124.7 million in FY 2005.

The results of the baseline for State employees include an employer contribution rate peaking at 18.81 percent in FY 2009, requiring an appropriation of nearly $132.0 million. The funded ratio is projected to decline throughout the balance of the decade from 65.8 percent in FY 2004 to 65.5 percent in FY 2012. Funded ratios are projected to improve to 81.8 percent by FY 2023. The consultant projects that with no changes, the State employee pension system would be fully funded in 27 years, or by FY 2030.

The results of the baseline for Teachers include an employer contribution rate peaking at 23.10 percent in FY 2008, requiring an appropriation of nearly $218.5 million. It should be noted that the State and municipalities share in the employer contribution (40/60 split). The funded ratio is projected to decline throughout the balance of the decade from 67.4 percent in FY 2004 to 66.3 percent in FY 2011. Funded ratios are projected to improve to 84.5 percent by FY 2023.

Modeling Scenarios - The following discussion outlines a number of models developed by the Consultant per requests from the Pension Review Team. The Consultant outlined what changes were made for each model, such as vesting requirements, changes in the COLA (Cost of living adjustment), age and years of service requirements, and changes in the benefit formula. It should be noted that there are several models that take into account multiple changes. The Consultant also indicated whether the changes requested would apply to future hires only, current active members with less than five years of service, as well vested members. The balance of this section discusses several of these models and the results of the models. The table below summarizes the impact each of the models described below would have on the existing pension system.

Employees' Retirement System of Rhode Island

Comparison of Employer Contribution Rates
Under Various Proposed Redesigns
Based on June 30, 2002 Actuarial Valuation

	Applied to Future Hires Only				Applied to Future Hires & Current Actives with < 5 Years			
Scenario	State Employees	Employer Contribution	Teachers	Employer Contribution	State Employees	Employer Contribution	Teachers	Employer Contribution
1. Valuation Results (Baseline)	11.51%	$71.7	14.84%	$124.7	11.51%	$71.7	14.84%	$124.7
2. Five-Year Vesting (Applied to all members)	11.78%	73.4	14.96%	125.7	11.78%	73.4	14.96%	125.7
3. Modify COLA (100% of CPI increase, max. 3.00%)	11.62%	72.4	14.75%	123.9	11.58%	72.1	14.62%	122.9
4.a. Modified Formula A	11.75%	73.2	14.79%	124.3	11.76%	73.3	14.71%	123.6
4.b. Modified Formula B	11.85%	73.8	14.92%	125.4	11.89%	74.1	14.92%	125.4
4.c. Modified Formula C	11.38%	70.9	14.34%	120.5	11.27%	70.2	13.95%	117.2
5.a. Eligibility (55/28; 60/10); No Reduced Retirement	11.57%	72.1	14.77%	124.1	11.50%	71.6	14.70%	123.5
5.b. Eligibility (55/28; 65/05); No Reduced Retirement	11.14%	69.4	14.43%	121.3	10.93%	68.1	14.10%	118.5
5.c. Eligibility (60/30; 65/05); No Reduced Retirement	10.98%	68.4	13.98%	117.5	10.74%	66.9	13.42%	112.8
5.d. Eligibility (60/30; 65/05); Reduced Retirement (55/20)	11.05%	68.8	13.89%	116.7	10.83%	67.5	13.29%	111.7
5.e. Eligibility (60/30; 65/10); Modified Formula C	10.49%	65.3	13.44%	112.9	9.80%	61.0	11.70%	98.3

Note: Item 1. shows the employer contribution rates determined in the June 30, 2002 actuarial valuation.
Item 2. shows the impact of changing to 5-year vesting for all members.
All other items include impact of 5-year vesting.
Formula changes in items 4.a, 4.b., and 4.c. do not affect correctional officers or legislators.
Eligibility changes in 5.a.-5.e. do not affect correctional officers or legislators
6%/year reduction applied for reduced retirement

1. Five Year Vesting – There was interest to understand the implications of shifting to five year vesting rather than ten years as currently required under the State's retirement rules. Because this would increase the number of vested members, this would represent a slight increase in the projected employer contribution rates.

   Using FY 2005 employer contribution rates as the baseline, implementing five-year vesting for future hires would increase the State contribution rate for State employees from 11.51 percent to 11.78 percent. The change in vesting would increase the FY 2005 employer contribution by $1.7 million. The contribution rate for future teachers would increase from 14.84 percent to 14.96 percent. This change would increase the employer contribution by $1.0 million. There would be no additional impact of five year vesting if it were applied to all future hires and current active members with less than five years of service.

2. Modifying the COLA Provision – To better understand the impact of potential changes to the State's COLA provision, the Consultant modeled the impact of establishing a new COLA provision that would represent 100 percent of CPI (Consumer Price Index) with a maximum COLA of 3.0 percent. The average future COLA is projected to be 2.5 percent over the projection period.

   The Consultant combined the five-year vesting and the COLA change to understand the net impact of the changes. For only new hires, again using FY 2005 employer contribution rates as the baseline, implementing the change in the COLA and the vesting for future hires only would result in a net decrease in the State contribution rate for State employees from 11.62 percent to 11.51 percent. This had a net impact on the employer contribution rate for State employees of $0.7 million in FY 2005. The contribution rate for future teachers would decrease from 14.84 percent to 14.75 percent, resulting in a net reduction in employer contributions of $0.8 million. If current members with less than five years are also included, the net decrease in employer contributions would result in a contribution rate for State employees of 11.58 percent and 14.62 percent for teachers. This would increase the employer contribution for State employees by $0.4 million and reduce the contribution for teachers by $1.8 million.

   However, one can adjust for the five-year vesting to isolate the impact of the COLA change. Using FY 2005 employer contribution rates as the baseline, implementing the change in the COLA for future hires only would decrease the State contribution rate for State employees from 11.51 percent to 11.35 percent. The contribution rate for future teachers would decrease from 14.84 percent to 14.63 percent. If this scenario was in place, FY 2005 employer contributions for State employees would decrease by $1.0 million and employer contributions for teachers would decrease by $1.8 million.

When current active members are also included as part of the model, there is an additional reduction in the employer rate of 0.04 percent for State employees (bringing it to 11.31 percent) and 0.34 percent for teachers (bringing the rate to 14.50 percent). This would result in reducing the FY 2005 employer contribution for State employees from $71.7 million to $70.5 million – a reduction of $1.2 million. The contribution for teachers would decline from $124.7 million to $122.0 million – a reduction of $2.9 million.

3. Modifying the Benefit Formula – The Consultant was asked to run the models off the baseline with different scenarios regarding changes in the benefit formula. There were essentially three different alternative formulas that were calculated using the model. Each model impacts the benefits that would be received differently. Each is briefly discussed below:

   - *Current Formula* - Currently employees earn 1.7 percent for the first ten years, 1.9 percent for the next ten years, 3.0 percent for the next fourteen years, and 2.0 percent for the thirty-fifth year. The maximum accrual for an employee is currently 80.0 percent.

   - *Alternative Model A* – Model A would have employees earn 1.7 percent for the first five years, 1.9 percent for the next ten years, 2.2 percent for the next ten years and 2.3 percent for the next ten years, resulting in a maximum accrual for an employee of 72.5 percent. Model A's projected FY 2005 impact on the employer contribution for future hires is an increase of $1.5 million for State employees and a decrease of $0.4 million for teachers. For future hires and active members with less than five years, the employer contribution would increase by $1.6 million for State employees and decrease by $1.1 million for teachers.

   - *Alternative Model B* – Model B would have employees earn 1.7 percent for the first five years, 2.0 percent for the next fifteen years, 2.5 percent for the next ten years and 2.0 percent for the next five years, resulting in a maximum accrual for an employee of 73.5 percent. Model B's projected FY 2005 impact on the employer contribution for future hires is an increase of $2.1 million for State employees and an increase of $0.7 million for teachers. For future hires and active members with less than five years, the employer contribution would increase by $2.4 million for State employees and increase by $0.7 million for teachers.

- *Alternative Model C* – Model C would have employees earn 1.6 percent for the first ten years, 1.8 percent for the next ten years, 2.0 percent for the next five years, 2.25 percent for the next five years, and 2.5 percent thereafter, resulting in a maximum accrual for an employee of 75.0 percent. Model C's projected FY 2005 impact on the employer contribution for future hires is a decrease of $0.8 million for State employees and a decrease of $4.2 million for teachers. For future hires and active members with less than five years, the employer contribution would decrease by $1.5 million for State employees and decrease by $7.5 million for teachers.

Employees' Retirement System of Rhode Island

Alternative Formulas

Current		A		B		C	
Years of Service	Annual Accrual	Years of Service	Annual Accrual	Years of Service	Annual Accrual	Years of Service	Annual Accrual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
First 10 (0-10)	1.70%	First 5 (0-5)	1.70%	First 5 (0-5)	1.70%	First 10 (0-10)	1.60%
Next 10 (10-20)	1.90%	Next 10 (5-15)	1.90%	Next 15 (5-20)	2.00%	Next 10 (10-20)	1.80%
Next 14 (20-34)	3.00%	Next 10 (15-25)	2.20%	Next 10 (20-30)	2.50%	Next 5 (20-25)	2.00%
35th Year	2.00%	Next 10 (25-35)	2.30%	Next 5 (30-35)	2.00%	Next 5 (25-30)	2.25%
						Thereafter (30-)	2.50%
Maximum Accrual	80.00%	Maximum Accrual	72.50%	Maximum Accrual	73.50%	Maximum Accrual	75.00%

Under the current formula, the cumulative accrual by the 30th year of service would be 66.0 percent. Accruals would differ depending on the Model. Under Model A, the employee would have a cumulative accrual of 61.0 percent by the 30th year. Model B would result in a cumulative accrual of 63.5 percent and Model C would result in a cumulative accrual of 55.25 percent by the 30th years of service.

In terms of the impact the models would have on employer contribution rates, these would also differ depending on the alternative benefit formula used in the calculation. The following discussion includes the impact of five year vesting as presented to the Pension Review Team.

Employees' Retirement System of Rhode Island

Compare Cumulative Accruals under Alternative Formulas

Years of Service	Current Formula	A	B	C
(1)	(2)	(3)	(4)	(5)
5 Years	8.50%	8.50%	8.50%	8.00%
10 Years	17.00%	18.00%	18.50%	16.00%
15 Years	26.50%	27.50%	28.50%	25.00%
20 Years	36.00%	38.50%	38.50%	34.00%
25 Years	51.00%	49.50%	51.00%	44.00%
30 Years	66.00%	61.00%	63.50%	55.25%
35 Years	80.00%	72.50%	73.50%	67.75%
40 Years	80.00%	72.50%	73.50%	75.00%

Using FY 2005 employer contribution rates as the baseline, implementing Model A's benefit formula for future hires only would increase the State contribution rate for State employees from 11.51 percent to 11.75 percent. The contribution rate for future teachers would decrease from 14.84 percent to 14.79 percent. For State employees, if current active members with less than five years of service were included, the contribution rate would be 11.76%. The contribution rate for teachers would decrease to 14.71 percent.

Model B would increase the employer contribution for both state employees and teachers. Again, using FY 2005 employer contribution rates as the baseline, implementing Model B's benefit formula for future hires would increase the State contribution rate for State employees from 11.51 percent to 11.85 percent. The contribution rate for future teachers would increase from 14.84 percent to 14.92 percent. There would be no change in the contribution rates should current active members with less than five years of service be added to the group that had this change.

Model C would result in changes in the State's contribution rate for both state employees and teachers. Based on the FY 2005 employer contribution rates as the baseline, State contribution rates for state employees would decline from 11.51 percent to 11.38 percent, and for teachers the rate would decline from 14.84 percent to 14.34 percent. Should the State include current actives with less than five years of service, the State contribution rates would further decline to 11.27 percent for State employees and to 13.95 percent for teachers.

4. Eligibility Changes – The Pension Review Team also explored how changes in age and years of service might impact the pension system and employer contribution rates. The State's existing pension system does not have an age requirement, and one can retire with a full pension benefit with 28 years of service. The following scenarios examine the impact of age requirements and changes in years of service on the pension system. These scenarios assume five year vesting requirements.

   Scenario A - Under this scenario, the State would require an employee to reach age 55 and serve 28 years in order to receive current pension benefits. Under this particular scenario, those who reach age 60 with 10 years of service may also retire without reduced retirement.

   Based on the FY 2005 employer contribution rates as the baseline, State contribution rates for state employees would increase from 11.51 percent to 11.57 percent, and for teachers the rate would decline from 14.84 percent to 14.77 percent. Should the state include current actives with less than five years of service, the State contribution rates would further decline to 11.50 percent for State employees and to 14.70 percent for teachers. There is little impact given that most employees are meeting this threshold to retire under the current pension system.

   Scenario A's projected FY 2005 impact on the employer contribution for future hires is an increase of $0.4 million for State employees and a decrease of $0.6 million for teachers. For future hires and active members with less than five years, the employer contribution would decrease by $0.1 million for State employees and decrease by $1.2 million for teachers.

   Scenario B - Under this scenario, the State would require an employee to reach age 55 and serve 28 years in order to receive current pension benefits. Under this particular scenario, those who reach age 65 with 5 years of service may also retire without reduced retirement.

Based on the FY 2005 employer contribution rates as the baseline, State contribution rates for state employees would decline from 11.51 percent to 11.14 percent, and for teachers the rate would decline from 14.84 percent to 14.43 percent. Should the state include current actives with less than five years of service, the State contribution rates would further decline to 10.93 percent for State employees and to 14.10 percent for teachers.

Scenario B's projected FY 2005 impact on the employer contribution for future hires is a decrease of $2.3 million for State employees and a decrease of $3.4 million for teachers. For future hires and active members with less than five years, the employer contribution would decrease by $3.6 million for State employees and decrease by $6.2 million for teachers.

Scenario C - Under this scenario, the State would require an employee to reach age 60 and serve 30 years in order to receive current pension benefits. Under this particular scenario, those who reach age 65 with 5 years of service may also retire without reduced retirement.

Based on the FY 2005 employer contribution rates as the baseline, State contribution rates for state employees would decline from 11.51 percent to 10.98 percent, and for teachers the rate would decline from 14.84 percent to 13.98 percent. Should the state include current actives with less than five years of service, the State contribution rates would further decline to 10.74 percent for State employees and to 13.42 percent for teachers.

Scenario C's projected FY 2005 impact on the employer contribution for future hires is a decrease of $3.3 million for State employees and a decrease of $7.2 million for teachers. For future hires and active members with less than five years, the employer contribution would decrease by $4.8 million for State employees and decrease by $11.9 million for teachers.

Scenario D - Under this scenario, the State would require an employee to reach age 60 and serve 30 years in order to receive current pension benefits. Under this particular scenario, those who reach age 65 with 5 years of service may also retire. However, employees may retire at age 55 with 20 years of service, but with a reduced retirement package.

Based on the FY 2005 employer contribution rates as the baseline, State contribution rates for state employees would decline from 11.51 percent to 11.05 percent, and for teachers the rate would decline from 14.84 percent to 13.89 percent. Should the state include current actives with less than five years of service, the State contribution rates would further decline to 10.83 percent for State employees and to 13.29 percent for teachers.

Scenario D's projected FY 2005 impact on the employer contribution for future hires is a decrease of $2.9 million for State employees and a decrease of $8.0 million for teachers. For future hires and active members with less than five years, the employer contribution would decrease by $4.2 million for State employees and decrease by $13.0 million for teachers.

Scenario E - Under this scenario, the State would require an employee to reach age 60 and serve 30 years in order to receive current pension benefits. Under this particular scenario, those who reach age 65 with 5 years of service may also retire without reduced retirement. In addition, this scenario included the benefit formula change Model C discussed above.

Based on the FY 2005 employer contribution rates as the baseline, State contribution rates for state employees would decline from 11.51 percent to 10.49 percent, and for teachers the rate would decline from 14.84 percent to 13.44 percent. Should the state include current actives with less than five years of service, the State contribution rates would further decline to 9.80 percent for State employees and to 11.70 percent for teachers.

Scenario E's projected FY 2005 impact on the employer contribution for future hires is a decrease of $6.4 million for State employees and a decrease of $11.8 million for teachers. For future hires and active members with less than five years, the employer contribution would decrease by $10.7 million for State employees and decrease by $26.4 million for teachers.

5. After analyzing individual benefit components, a recommendation was made to review a combination of benefit changes as the final step in the modeling stage of the team's review. The following options were reviewed by the team.

Treasurer Proposal – Under the first proposal, the membership was divided into three groups – those members eligible to retire, those vested and those that are non-vested. There are no changes to the benefits for those eligible for retirement. Under the proposal, for both vested and non-vested, the COLA would change to one that is tied to CPI with a maximum of 3.0 percent. In addition, non-vested members would also see the benefit formula changed to what was described earlier under Alternative Model C, with a minimum age requirement of age 55 added to the 28 year service requirement. Vesting remained at 10 years.

Based on the FY 2006 employer contribution rates as the baseline, this scenario would reduce the State contribution rate for state employees from 16.96 percent to 14.87 percent, and for teachers the rate would decline from 20.01 percent to 17.06 percent. The Treasurer's proposal's projected FY 2006 impact on the employer contribution for the state employees would reduce the contribution from $110.7 million to $97.0 million – a reduction of $13.7 million. For teachers, the employer contribution would decline from $179.7 million to $153.3 million, a reduction in contribution of $26.4 million.

In addition, four additional modifications to the Treasurer's proposal were analyzed as described below:

A - Same as the Treasurer's proposal but without the COLA change for vested members.
B - No change for vested members, only applied to new hires and non-vested employees. Change to accrual formula C only.
C - No change for vested members, only applied to new hires and non-vested employees. Change to minimum age 55 only.
D - No change for vested members, only applied to new hires and non-vested employees. Change to accrual formula C and minimum age 55.

The results of these changes are summarized in the table below:

	(FY 2006) - State Employees			**(FY 2006) - Teachers**		
Proposals	Contribution Rate	Employer Cost (Millions)	Savings Over Baseline	Contribution Rate	Employer Cost (Millions)	Savings Over Baseline
Baseline	16.96%	110.7	N/A	20.01%	179.7	N/A
A	15.51	101.2	9.5	17.59	158.0	21.7
B	15.92	103.9	6.8	18.26	164.1	15.6
C	16.87	110.1	.6	19.79	177.8	1.9
D	15.85	103.4	7.3	18.08	162.4	17.3

Some members of the team inquired about the impact of changing to a minimum age for retirement of 60 with 30 years of service and age 65 with 10 years of service. The consultant provided 20 year models based on the revised minimum eligibility coupled with accrual formula C. One model was based on future hires and non-vested members with the second being based on new hires only.

Results of these models is summarized below:

Proposal	**(FY 2006) State Employees**			**FY 2006 Teachers**		
	Contribution Rate	Employer Cost (Millions)	Savings Over Baseline	Contribution Rate	Employer Cost (Millions)	Savings Over Baseline
Baseline	16.96%	110.7	N/A	20.01%	179.7	N/A
Formula C Retirement 60/30 or 65/10 New Hires Only	15.83%	103.3	7.4	18.47%	165.9	13.8
Formula C Retirement 60/30 or 65/10 New Hires And Non-Vested	15.22%	99.3	11.4	16.74%	150.4	29.3

For those models that were of interest to team members, a request was provided to the consultant to expand the models to cover the next 20-year period. These models include important information on the impact on employer contributions and funded ratio for both the state employee and teacher pension plans.

The following pages include those 20-year projections for the Baseline, the Treasurer's proposal, the four modifications to the Treasurer's proposal and the proposal raising the minimum age to 60 with 30 years of service/65 with 10 years of service. These projections are provided separately for State employees and teachers.

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Baseline

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,461.7	2,267.7	1,194.0	65.5%	16.96%	1,811.0	52.3%
2004	8.25%	11.51%	628.8	72.4	3,644.3	2,215.2	1,429.1	60.8%	19.30%	2,085.1	57.2%
2005	8.25%	16.96%	652.4	110.7	3,829.1	2,183.8	1,645.3	57.0%	21.34%	2,191.6	57.2%
2006	8.25%	19.30%	676.9	130.6	4,018.0	2,278.1	1,739.8	56.7%	21.90%	2,334.5	58.1%
2007	8.25%	21.34%	702.3	149.9	4,210.5	2,458.9	1,751.6	58.4%	21.63%	2,497.2	59.3%
2008	8.25%	21.90%	728.6	159.6	4,406.3	2,679.6	1,726.6	60.8%	21.14%	2,679.6	60.8%
2009	8.25%	21.63%	755.9	163.5	4,605.3	2,873.3	1,732.0	62.4%	21.14%	2,873.3	62.4%
2010	8.25%	21.14%	784.3	165.8	4,807.8	3,073.0	1,734.8	63.9%	21.14%	3,073.0	63.9%
2011	8.25%	21.14%	813.7	172.0	5,013.7	3,277.2	1,736.5	65.4%	21.13%	3,277.2	65.4%
2012	8.25%	21.14%	844.2	178.4	5,222.5	3,489.5	1,733.1	66.8%	21.13%	3,489.5	66.8%
2013	8.25%	21.13%	875.8	185.1	5,434.1	3,710.2	1,723.9	68.3%	21.12%	3,710.2	68.3%
2014	8.25%	21.13%	908.7	192.0	5,649.0	3,940.6	1,708.3	69.8%	21.12%	3,940.6	69.8%
2015	8.25%	21.12%	942.8	199.1	5,867.5	4,181.9	1,685.6	71.3%	21.11%	4,181.9	71.3%
2016	8.25%	21.12%	978.1	206.6	6,089.8	4,434.8	1,654.9	72.8%	21.11%	4,434.8	72.8%
2017	8.25%	21.11%	1,014.8	214.3	6,315.2	4,699.8	1,615.4	74.4%	21.10%	4,699.8	74.4%
2018	8.25%	21.11%	1,052.9	222.2	6,543.8	4,977.8	1,566.0	76.1%	21.10%	4,977.8	76.1%
2019	8.25%	21.10%	1,092.3	230.5	6,776.2	5,270.4	1,505.8	77.8%	21.09%	5,270.4	77.8%
2020	8.25%	21.10%	1,133.3	239.1	7,013.0	5,579.5	1,433.6	79.6%	21.08%	5,579.5	79.6%
2021	8.25%	21.09%	1,175.8	248.0	7,255.3	5,907.2	1,348.1	81.4%	21.07%	5,907.2	81.4%
2022	8.25%	21.08%	1,219.9	257.1	7,504.1	6,256.1	1,248.0	83.4%	21.06%	6,256.1	83.4%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Treasurer's Proposal

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,449.7	2,267.7	1,182.0	65.7%	14.87%	1,811.0	52.5%
2004	8.25%	11.51%	628.8	72.4	3,620.5	2,215.2	1,405.3	61.2%	17.20%	2,085.1	57.6%
2005	8.25%	14.87%	652.4	97.0	3,792.2	2,183.8	1,608.4	57.6%	19.25%	2,191.6	57.8%
2006	8.25%	17.20%	676.9	116.5	3,966.4	2,263.9	1,702.4	57.1%	19.81%	2,320.3	58.5%
2007	8.25%	19.25%	702.3	135.2	4,142.7	2,428.8	1,713.8	58.6%	19.54%	2,467.1	59.6%
2008	8.25%	19.81%	728.6	144.3	4,320.4	2,631.8	1,688.6	60.9%	19.05%	2,631.8	60.9%
2009	8.25%	19.54%	755.9	147.7	4,499.5	2,805.8	1,693.7	62.4%	19.05%	2,805.8	62.4%
2010	8.25%	19.05%	784.3	149.4	4,680.1	2,983.8	1,696.3	63.8%	19.04%	2,983.8	63.8%
2011	8.25%	19.05%	813.7	155.0	4,862.0	3,164.0	1,698.0	65.1%	19.04%	3,164.0	65.1%
2012	8.25%	19.04%	844.2	160.8	5,044.7	3,350.0	1,694.7	66.4%	19.03%	3,350.0	66.4%
2013	8.25%	19.04%	875.8	166.8	5,227.7	3,542.0	1,685.7	67.8%	19.03%	3,542.0	67.8%
2014	8.25%	19.03%	908.7	173.0	5,411.5	3,741.0	1,670.5	69.1%	19.03%	3,741.0	69.1%
2015	8.25%	19.03%	942.8	179.4	5,596.3	3,948.1	1,648.3	70.5%	19.02%	3,948.1	70.5%
2016	8.25%	19.03%	978.1	186.1	5,782.2	4,163.9	1,618.3	72.0%	19.01%	4,163.9	72.0%
2017	8.25%	19.02%	1,014.8	193.0	5,968.3	4,388.7	1,579.6	73.5%	19.01%	4,388.7	73.5%
2018	8.25%	19.01%	1,052.9	200.2	6,154.7	4,623.3	1,531.3	75.1%	19.00%	4,623.3	75.1%
2019	8.25%	19.01%	1,092.3	207.7	6,341.7	4,869.3	1,472.5	76.8%	19.00%	4,869.3	76.8%
2020	8.25%	19.00%	1,133.3	215.4	6,530.0	5,128.2	1,401.8	78.5%	18.99%	5,128.2	78.5%
2021	8.25%	19.00%	1,175.8	223.4	6,720.4	5,402.1	1,318.2	80.4%	18.98%	5,402.1	80.4%
2022	8.25%	18.99%	1,219.9	231.6	6,913.9	5,693.6	1,220.4	82.3%	18.97%	5,693.6	82.3%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Treasurer's Proposal A
Current Vested (Not Eligible for Retirement) No Change
Nonvested and Future Hires: Formula C, Minimum Reitrement Age 55, Modified COLA

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,502.6	2,267.7	1,234.9	64.7%	15.51%	1,811.0	51.7%
2004	8.25%	11.51%	628.8	72.4	3,677.8	2,215.2	1,462.6	60.2%	17.85%	2,085.1	56.7%
2005	8.25%	15.51%	652.4	101.2	3,854.2	2,183.8	1,670.4	56.7%	19.89%	2,191.6	56.9%
2006	8.25%	17.85%	676.9	120.8	4,033.5	2,268.3	1,765.2	56.2%	20.45%	2,324.7	57.6%
2007	8.25%	19.89%	702.3	139.7	4,215.3	2,438.1	1,777.2	57.8%	20.18%	2,476.4	58.7%
2008	8.25%	20.45%	728.6	149.0	4,399.0	2,646.5	1,752.5	60.2%	19.70%	2,646.5	60.2%
2009	8.25%	20.18%	755.9	152.6	4,584.5	2,826.6	1,758.0	61.7%	19.69%	2,826.6	61.7%
2010	8.25%	19.70%	784.3	154.5	4,771.9	3,011.1	1,760.8	63.1%	19.69%	3,011.1	63.1%
2011	8.25%	19.69%	813.7	160.2	4,961.1	3,198.5	1,762.6	64.5%	19.68%	3,198.5	64.5%
2012	8.25%	19.69%	844.2	166.2	5,151.3	3,392.2	1,759.1	65.9%	19.68%	3,392.2	65.9%
2013	8.25%	19.68%	875.8	172.4	5,342.4	3,592.5	1,749.8	67.2%	19.67%	3,592.5	67.2%
2014	8.25%	19.68%	908.7	178.8	5,534.4	3,800.4	1,734.0	68.7%	19.67%	3,800.4	68.7%
2015	8.25%	19.67%	942.8	185.5	5,727.9	4,017.0	1,711.0	70.1%	19.66%	4,017.0	70.1%
2016	8.25%	19.67%	978.1	192.4	5,922.6	4,242.8	1,679.8	71.6%	19.66%	4,242.8	71.6%
2017	8.25%	19.66%	1,014.8	199.5	6,117.7	4,478.0	1,639.7	73.2%	19.65%	4,478.0	73.2%
2018	8.25%	19.66%	1,052.9	207.0	6,313.1	4,723.6	1,589.6	74.8%	19.64%	4,723.6	74.8%
2019	8.25%	19.65%	1,092.3	214.7	6,509.3	4,980.8	1,528.4	76.5%	19.64%	4,980.8	76.5%
2020	8.25%	19.64%	1,133.3	222.6	6,706.5	5,251.4	1,455.1	78.3%	19.63%	5,251.4	78.3%
2021	8.25%	19.64%	1,175.8	230.9	6,905.6	5,537.3	1,368.4	80.2%	19.62%	5,537.3	80.2%
2022	8.25%	19.63%	1,219.9	239.5	7,107.7	5,840.9	1,266.8	82.2%	19.61%	5,840.9	82.2%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Treasurer's Proposal B

Current Vested (Not Eligible for Retirement) No Change

Nonvested and Future Hires: Formula C Only (No Minimum Reitrement Age, No Modified COLA)

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,488.8	2,267.7	1,221.1	65.0%	15.92%	1,811.0	51.9%
2004	8.25%	11.51%	628.8	72.4	3,666.1	2,215.2	1,450.9	60.4%	18.26%	2,085.1	56.9%
2005	8.25%	15.92%	652.4	103.9	3,844.9	2,183.8	1,661.0	56.8%	20.30%	2,191.6	57.0%
2006	8.25%	18.26%	676.9	123.6	4,026.9	2,271.1	1,755.7	56.4%	20.87%	2,327.5	57.8%
2007	8.25%	20.30%	702.3	142.6	4,211.7	2,444.1	1,767.6	58.0%	20.60%	2,482.3	58.9%
2008	8.25%	20.87%	728.6	152.0	4,398.8	2,656.0	1,742.8	60.4%	20.11%	2,656.0	60.4%
2009	8.25%	20.60%	755.9	155.7	4,588.2	2,839.9	1,748.3	61.9%	20.10%	2,839.9	61.9%
2010	8.25%	20.11%	784.3	157.7	4,779.9	3,028.8	1,751.1	63.4%	20.10%	3,028.8	63.4%
2011	8.25%	20.10%	813.7	163.6	4,973.9	3,221.0	1,752.8	64.8%	20.10%	3,221.0	64.8%
2012	8.25%	20.10%	844.2	169.7	5,169.5	3,420.1	1,749.4	66.2%	20.09%	3,420.1	66.2%
2013	8.25%	20.10%	875.8	176.0	5,366.4	3,626.3	1,740.2	67.6%	20.09%	3,626.3	67.6%
2014	8.25%	20.09%	908.7	182.6	5,565.1	3,840.6	1,724.5	69.0%	20.08%	3,840.6	69.0%
2015	8.25%	20.09%	942.8	189.4	5,765.8	4,064.3	1,701.5	70.5%	20.08%	4,064.3	70.5%
2016	8.25%	20.08%	978.1	196.4	5,968.5	4,298.0	1,670.5	72.0%	20.07%	4,298.0	72.0%
2017	8.25%	20.08%	1,014.8	203.7	6,172.5	4,541.8	1,630.6	73.6%	20.06%	4,541.8	73.6%
2018	8.25%	20.07%	1,052.9	211.3	6,377.6	4,796.8	1,580.8	75.2%	20.06%	4,796.8	75.2%
2019	8.25%	20.06%	1,092.3	219.2	6,584.3	5,064.3	1,520.0	76.9%	20.05%	5,064.3	76.9%
2020	8.25%	20.06%	1,133.3	227.3	6,793.2	5,346.1	1,447.1	78.7%	20.04%	5,346.1	78.7%
2021	8.25%	20.05%	1,175.8	235.8	7,005.1	5,644.2	1,360.8	80.6%	20.03%	5,644.2	80.6%
2022	8.25%	20.04%	1,219.9	244.5	7,221.0	5,961.2	1,259.8	82.6%	20.02%	5,961.2	82.6%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Treasurer's Proposal C

Current Vested (Not Eligible for Retirement) No Change

Nonvested and Future Hires: Minimum Retirement Age (55) Only (No Formula C, No Modified COLA)

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,469.1	2,267.7	1,201.5	65.4%	16.87%	1,811.0	52.2%
2004	8.25%	11.51%	628.8	72.4	3,651.3	2,215.2	1,436.2	60.7%	19.21%	2,085.1	57.1%
2005	8.25%	16.87%	652.4	110.1	3,835.7	2,183.8	1,651.9	56.9%	21.25%	2,191.6	57.1%
2006	8.25%	19.21%	676.9	130.0	4,024.0	2,277.5	1,746.5	56.6%	21.81%	2,333.9	58.0%
2007	8.25%	21.25%	702.3	149.2	4,215.9	2,457.6	1,758.3	58.3%	21.54%	2,495.9	59.2%
2008	8.25%	21.81%	728.6	158.9	4,410.9	2,677.5	1,733.4	60.7%	21.05%	2,677.5	60.7%
2009	8.25%	21.54%	755.9	162.8	4,609.1	2,870.3	1,738.8	62.3%	21.05%	2,870.3	62.3%
2010	8.25%	21.05%	784.3	165.1	4,810.7	3,069.1	1,741.6	63.8%	21.04%	3,069.1	63.8%
2011	8.25%	21.05%	813.7	171.3	5,015.5	3,272.2	1,743.3	65.2%	21.04%	3,272.2	65.2%
2012	8.25%	21.04%	844.2	177.7	5,223.2	3,483.3	1,739.9	66.7%	21.04%	3,483.3	66.7%
2013	8.25%	21.04%	875.8	184.3	5,433.4	3,702.7	1,730.7	68.1%	21.03%	3,702.7	68.1%
2014	8.25%	21.04%	908.7	191.2	5,646.7	3,931.7	1,715.1	69.6%	21.03%	3,931.7	69.6%
2015	8.25%	21.03%	942.8	198.3	5,863.6	4,171.3	1,692.3	71.1%	21.02%	4,171.3	71.1%
2016	8.25%	21.03%	978.1	205.7	6,084.0	4,422.5	1,661.4	72.7%	21.02%	4,422.5	72.7%
2017	8.25%	21.02%	1,014.8	213.3	6,307.3	4,685.5	1,621.8	74.3%	21.01%	4,685.5	74.3%
2018	8.25%	21.02%	1,052.9	221.3	6,533.5	4,961.3	1,572.2	75.9%	21.00%	4,961.3	75.9%
2019	8.25%	21.01%	1,092.3	229.5	6,763.4	5,251.6	1,511.7	77.6%	21.00%	5,251.6	77.6%
2020	8.25%	21.00%	1,133.3	238.0	6,997.3	5,558.1	1,439.2	79.4%	20.99%	5,558.1	79.4%
2021	8.25%	21.00%	1,175.8	246.9	7,236.4	5,882.9	1,353.4	81.3%	20.98%	5,882.9	81.3%
2022	8.25%	20.99%	1,219.9	256.0	7,481.7	6,228.7	1,253.0	83.3%	20.97%	6,228.7	83.3%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Treasurer's Proposal D
Current Vested (Not Eligible for Retirement) No Change
Nonvested and Future Hires: Minimum Retirement Age (55) and Formula C (No Modified COLA)

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,494.9	2,267.7	1,227.2	64.9%	15.85%	1,811.0	51.8%
2004	8.25%	11.51%	628.8	72.4	3,671.9	2,215.2	1,456.7	60.3%	18.19%	2,085.1	56.8%
2005	8.25%	15.85%	652.4	103.4	3,850.3	2,183.8	1,666.4	56.7%	20.23%	2,191.6	56.9%
2006	8.25%	18.19%	676.9	123.1	4,031.8	2,270.6	1,761.2	56.3%	20.79%	2,327.0	57.7%
2007	8.25%	20.23%	702.3	142.1	4,216.2	2,443.0	1,773.2	57.9%	20.52%	2,481.3	58.9%
2008	8.25%	20.79%	728.6	151.5	4,402.7	2,654.3	1,748.4	60.3%	20.03%	2,654.3	60.3%
2009	8.25%	20.52%	755.9	155.1	4,591.4	2,837.5	1,753.9	61.8%	20.03%	2,837.5	61.8%
2010	8.25%	20.03%	784.3	157.1	4,782.4	3,025.7	1,756.7	63.3%	20.03%	3,025.7	63.3%
2011	8.25%	20.03%	813.7	163.0	4,975.5	3,217.0	1,758.5	64.7%	20.02%	3,217.0	64.7%
2012	8.25%	20.03%	844.2	169.1	5,170.1	3,415.1	1,755.0	66.1%	20.02%	3,415.1	66.1%
2013	8.25%	20.02%	875.8	175.4	5,366.0	3,620.2	1,745.7	67.5%	20.01%	3,620.2	67.5%
2014	8.25%	20.02%	908.7	181.9	5,563.4	3,833.4	1,730.0	68.9%	20.01%	3,833.4	68.9%
2015	8.25%	20.01%	942.8	188.7	5,762.8	4,055.8	1,707.0	70.4%	20.00%	4,055.8	70.4%
2016	8.25%	20.01%	978.1	195.7	5,963.9	4,288.0	1,675.9	71.9%	20.00%	4,288.0	71.9%
2017	8.25%	20.00%	1,014.8	203.0	6,166.2	4,530.3	1,635.8	73.5%	19.99%	4,530.3	73.5%
2018	8.25%	20.00%	1,052.9	210.5	6,369.4	4,783.5	1,585.9	75.1%	19.98%	4,783.5	75.1%
2019	8.25%	19.99%	1,092.3	218.4	6,574.1	5,049.2	1,524.9	76.8%	19.98%	5,049.2	76.8%
2020	8.25%	19.98%	1,133.3	226.5	6,780.6	5,328.8	1,451.7	78.6%	19.97%	5,328.8	78.6%
2021	8.25%	19.98%	1,175.8	234.9	6,989.9	5,624.7	1,365.2	80.5%	19.96%	5,624.7	80.5%
2022	8.25%	19.97%	1,219.9	243.6	7,203.0	5,939.1	1,263.8	82.5%	19.95%	5,939.1	82.5%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Baseline

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,284.9	3,427.7	1,857.2	64.9%	20.01%	2,729.8	51.7%
2004	8.25%	14.84%	865.9	128.5	5,543.0	3,343.2	2,199.8	60.3%	22.44%	3,140.2	56.7%
2005	8.25%	20.01%	898.4	179.7	5,805.6	3,283.1	2,522.5	56.6%	24.55%	3,292.5	56.7%
2006	8.25%	22.44%	932.1	209.1	6,074.0	3,408.2	2,665.8	56.1%	25.19%	3,493.1	57.5%
2007	8.25%	24.55%	967.1	237.4	6,348.7	3,665.6	2,683.0	57.7%	24.89%	3,723.3	58.6%
2008	8.25%	25.19%	1,003.3	252.7	6,631.1	3,985.1	2,646.0	60.1%	24.36%	3,985.1	60.1%
2009	8.25%	24.89%	1,040.9	259.1	6,923.5	4,269.1	2,654.3	61.7%	24.36%	4,269.1	61.7%
2010	8.25%	24.36%	1,080.0	263.1	7,228.2	4,569.5	2,658.7	63.2%	24.35%	4,569.5	63.2%
2011	8.25%	24.36%	1,120.5	272.9	7,546.1	4,884.8	2,661.3	64.7%	24.35%	4,884.8	64.7%
2012	8.25%	24.35%	1,162.5	283.1	7,877.5	5,221.4	2,656.1	66.3%	24.34%	5,221.4	66.3%
2013	8.25%	24.35%	1,206.1	293.6	8,221.8	5,579.7	2,642.1	67.9%	24.34%	5,579.7	67.9%
2014	8.25%	24.34%	1,251.3	304.6	8,578.4	5,960.2	2,618.2	69.5%	24.33%	5,960.2	69.5%
2015	8.25%	24.34%	1,298.2	315.9	8,948.1	6,364.7	2,583.4	71.1%	24.33%	6,364.7	71.1%
2016	8.25%	24.33%	1,346.9	327.7	9,331.1	6,794.8	2,536.4	72.8%	24.32%	6,794.8	72.8%
2017	8.25%	24.33%	1,397.4	339.9	9,728.1	7,252.4	2,475.7	74.6%	24.31%	7,252.4	74.6%
2018	8.25%	24.32%	1,449.8	352.6	10,139.7	7,739.6	2,400.1	76.3%	24.31%	7,739.6	76.3%
2019	8.25%	24.31%	1,504.2	365.7	10,565.0	8,257.2	2,307.8	78.2%	24.30%	8,257.2	78.2%
2020	8.25%	24.31%	1,560.6	379.3	11,006.6	8,809.5	2,197.1	80.0%	24.29%	8,809.5	80.0%
2021	8.25%	24.30%	1,619.1	393.4	11,465.4	9,399.3	2,066.2	82.0%	24.28%	9,399.3	82.0%
2022	8.25%	24.29%	1,679.9	408.0	11,943.5	10,030.7	1,912.8	84.0%	24.27%	10,030.7	84.0%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Treasurer's Proposal

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,267.1	3,427.7	1,839.4	65.1%	17.06%	2,729.8	51.8%
2004	8.25%	14.84%	865.9	128.5	5,502.4	3,343.2	2,159.2	60.8%	19.49%	3,140.2	57.1%
2005	8.25%	17.06%	898.4	153.3	5,739.5	3,283.1	2,456.4	57.2%	21.60%	3,292.5	57.4%
2006	8.25%	19.49%	932.1	181.7	5,979.5	3,380.6	2,599.0	56.5%	22.24%	3,465.5	58.0%
2007	8.25%	21.60%	967.1	208.9	6,222.7	3,607.2	2,615.5	58.0%	21.95%	3,664.8	58.9%
2008	8.25%	22.24%	1,003.3	223.2	6,470.2	3,892.2	2,577.9	60.2%	21.41%	3,892.2	60.2%
2009	8.25%	21.95%	1,040.9	228.4	6,723.9	4,138.0	2,585.8	61.5%	21.41%	4,138.0	61.5%
2010	8.25%	21.41%	1,080.0	231.2	6,985.9	4,396.0	2,589.9	62.9%	21.40%	4,396.0	62.9%
2011	8.25%	21.41%	1,120.5	239.9	7,256.9	4,664.4	2,592.5	64.3%	21.40%	4,664.4	64.3%
2012	8.25%	21.40%	1,162.5	248.8	7,536.7	4,949.3	2,587.4	65.7%	21.39%	4,949.3	65.7%
2013	8.25%	21.40%	1,206.1	258.1	7,824.6	5,250.9	2,573.8	67.1%	21.39%	5,250.9	67.1%
2014	8.25%	21.39%	1,251.3	267.7	8,119.7	5,569.2	2,550.5	68.6%	21.38%	5,569.2	68.6%
2015	8.25%	21.39%	1,298.2	277.7	8,422.2	5,905.6	2,516.6	70.1%	21.38%	5,905.6	70.1%
2016	8.25%	21.38%	1,346.9	288.0	8,732.2	6,261.4	2,470.7	71.7%	21.37%	6,261.4	71.7%
2017	8.25%	21.38%	1,397.4	298.7	9,049.8	6,638.1	2,411.7	73.4%	21.37%	6,638.1	73.4%
2018	8.25%	21.37%	1,449.8	309.9	9,375.4	7,037.4	2,338.0	75.1%	21.36%	7,037.4	75.1%
2019	8.25%	21.37%	1,504.2	321.4	9,707.8	7,459.7	2,248.1	76.8%	21.35%	7,459.7	76.8%
2020	8.25%	21.36%	1,560.6	333.3	10,049.1	7,908.8	2,140.3	78.7%	21.34%	7,908.8	78.7%
2021	8.25%	21.35%	1,619.1	345.7	10,399.7	8,387.0	2,012.7	80.6%	21.33%	8,387.0	80.6%
2022	8.25%	21.34%	1,679.9	358.5	10,761.9	8,898.6	1,863.3	82.7%	21.32%	8,898.6	82.7%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation

Teachers

Treasurer's Proposal A

Current Vested (Not Eligible for Retirement) No Change

Nonvested and Future Hires: Formula C, Minimum Reitrement Age 55, Modified COLA

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,326.9	3,427.7	1,899.2	64.3%	17.59%	2,729.8	51.2%
2004	8.25%	14.84%	865.9	128.5	5,567.2	3,343.2	2,224.0	60.1%	20.02%	3,140.2	56.4%
2005	8.25%	17.59%	898.4	158.0	5,809.6	3,283.1	2,526.5	56.5%	22.13%	3,292.5	56.7%
2006	8.25%	20.02%	932.1	186.6	6,055.5	3,385.6	2,669.9	55.9%	22.77%	3,470.5	57.3%
2007	8.25%	22.13%	967.1	214.0	6,304.9	3,617.7	2,687.2	57.4%	22.47%	3,675.3	58.3%
2008	8.25%	22.77%	1,003.3	228.5	6,559.1	3,908.9	2,650.2	59.6%	21.94%	3,908.9	59.6%
2009	8.25%	22.47%	1,040.9	234.0	6,820.0	4,161.5	2,658.5	61.0%	21.94%	4,161.5	61.0%
2010	8.25%	21.94%	1,080.0	237.0	7,089.9	4,427.0	2,662.9	62.4%	21.93%	4,427.0	62.4%
2011	8.25%	21.94%	1,120.5	245.8	7,369.0	4,703.5	2,665.5	63.8%	21.93%	4,703.5	63.8%
2012	8.25%	21.93%	1,162.5	255.0	7,657.6	4,997.3	2,660.3	65.3%	21.92%	4,997.3	65.3%
2013	8.25%	21.93%	1,206.1	264.5	7,954.6	5,308.3	2,646.3	66.7%	21.92%	5,308.3	66.7%
2014	8.25%	21.92%	1,251.3	274.3	8,259.2	5,636.8	2,622.4	68.2%	21.91%	5,636.8	68.2%
2015	8.25%	21.92%	1,298.2	284.5	8,571.5	5,984.1	2,587.5	69.8%	21.91%	5,984.1	69.8%
2016	8.25%	21.91%	1,346.9	295.1	8,891.7	6,351.3	2,540.4	71.4%	21.90%	6,351.3	71.4%
2017	8.25%	21.91%	1,397.4	306.1	9,219.8	6,740.1	2,479.7	73.1%	21.89%	6,740.1	73.1%
2018	8.25%	21.90%	1,449.8	317.5	9,556.0	7,152.1	2,403.9	74.8%	21.89%	7,152.1	74.8%
2019	8.25%	21.89%	1,504.2	329.3	9,899.0	7,587.5	2,311.5	76.6%	21.88%	7,587.5	76.6%
2020	8.25%	21.89%	1,560.6	341.6	10,250.9	8,050.3	2,200.6	78.5%	21.87%	8,050.3	78.5%
2021	8.25%	21.88%	1,619.1	354.2	10,612.0	8,542.6	2,069.4	80.5%	21.86%	8,542.6	80.5%
2022	8.25%	21.87%	1,679.9	367.4	10,984.4	9,068.6	1,915.8	82.6%	21.85%	9,068.6	82.6%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Treasurer's Proposal B
Current Vested (Not Eligible for Retirement) No Change
Nonvested and Future Hires: Formula C Only (No Minimum Reitrement Age, No Modified COLA)

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,314.7	3,427.7	1,887.0	64.5%	18.26%	2,729.8	51.4%
2004	8.25%	14.84%	865.9	128.5	5,559.9	3,343.2	2,216.6	60.1%	20.69%	3,140.2	56.5%
2005	8.25%	18.26%	898.4	164.1	5,807.9	3,283.1	2,524.8	56.5%	22.80%	3,292.5	56.7%
2006	8.25%	20.69%	932.1	192.8	6,059.9	3,391.9	2,668.0	56.0%	23.44%	3,476.8	57.4%
2007	8.25%	22.80%	967.1	220.5	6,316.3	3,631.0	2,685.3	57.5%	23.14%	3,688.7	58.4%
2008	8.25%	23.44%	1,003.3	235.1	6,578.3	3,930.1	2,648.3	59.7%	22.61%	3,930.1	59.7%
2009	8.25%	23.14%	1,040.9	240.9	6,847.9	4,191.3	2,656.6	61.2%	22.60%	4,191.3	61.2%
2010	8.25%	22.61%	1,080.0	244.1	7,127.4	4,466.5	2,660.9	62.7%	22.60%	4,466.5	62.7%
2011	8.25%	22.60%	1,120.5	253.2	7,417.3	4,753.7	2,663.6	64.1%	22.59%	4,753.7	64.1%
2012	8.25%	22.60%	1,162.5	262.7	7,717.7	5,059.4	2,658.4	65.6%	22.59%	5,059.4	65.6%
2013	8.25%	22.59%	1,206.1	272.5	8,027.9	5,383.6	2,644.3	67.1%	22.58%	5,383.6	67.1%
2014	8.25%	22.59%	1,251.3	282.7	8,347.0	5,726.6	2,620.5	68.6%	22.58%	5,726.6	68.6%
2015	8.25%	22.58%	1,298.2	293.2	8,675.4	6,089.8	2,585.6	70.2%	22.57%	6,089.8	70.2%
2016	8.25%	22.58%	1,346.9	304.1	9,013.2	6,474.7	2,538.5	71.8%	22.57%	6,474.7	71.8%
2017	8.25%	22.57%	1,397.4	315.4	9,360.6	6,882.8	2,477.9	73.5%	22.56%	6,882.8	73.5%
2018	8.25%	22.57%	1,449.8	327.2	9,718.0	7,315.9	2,402.1	75.3%	22.55%	7,315.9	75.3%
2019	8.25%	22.56%	1,504.2	339.3	10,084.2	7,774.4	2,309.8	77.1%	22.54%	7,774.4	77.1%
2020	8.25%	22.55%	1,560.6	351.9	10,461.5	8,262.5	2,199.0	79.0%	22.54%	8,262.5	79.0%
2021	8.25%	22.54%	1,619.1	365.0	10,850.4	8,782.5	2,067.9	80.9%	22.53%	8,782.5	80.9%
2022	8.25%	22.54%	1,679.9	378.6	11,252.9	9,338.5	1,914.4	83.0%	22.51%	9,338.5	83.0%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation

Teachers

Treasurer's Proposal C

Current Vested (Not Eligible for Retirement) No Change

Nonvested and Future Hires: Minimum Retirement Age (55) Only (No Formula C, No Modified COLA)

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,291.4	3,427.7	1,863.7	64.8%	19.79%	2,729.8	51.6%
2004	8.25%	14.84%	865.9	128.5	5,548.0	3,343.2	2,204.7	60.3%	22.22%	3,140.2	56.6%
2005	8.25%	19.79%	898.4	177.8	5,808.8	3,283.1	2,525.7	56.5%	24.34%	3,292.5	56.7%
2006	8.25%	22.22%	932.1	207.1	6,075.2	3,406.2	2,669.0	56.1%	24.97%	3,491.1	57.5%
2007	8.25%	24.34%	967.1	235.4	6,347.7	3,661.4	2,686.3	57.7%	24.68%	3,719.0	58.6%
2008	8.25%	24.97%	1,003.3	250.6	6,627.6	3,978.3	2,649.3	60.0%	24.14%	3,978.3	60.0%
2009	8.25%	24.68%	1,040.9	256.9	6,917.2	4,259.5	2,657.6	61.6%	24.14%	4,259.5	61.6%
2010	8.25%	24.14%	1,080.0	260.8	7,218.8	4,556.8	2,662.0	63.1%	24.14%	4,556.8	63.1%
2011	8.25%	24.14%	1,120.5	270.5	7,533.2	4,868.6	2,664.6	64.6%	24.13%	4,868.6	64.6%
2012	8.25%	24.14%	1,162.5	280.6	7,860.7	5,201.3	2,659.4	66.2%	24.13%	5,201.3	66.2%
2013	8.25%	24.13%	1,206.1	291.0	8,200.7	5,555.3	2,645.4	67.7%	24.12%	5,555.3	67.7%
2014	8.25%	24.13%	1,251.3	301.9	8,552.6	5,931.1	2,621.5	69.3%	24.11%	5,931.1	69.3%
2015	8.25%	24.12%	1,298.2	313.1	8,917.0	6,330.4	2,586.6	71.0%	24.11%	6,330.4	71.0%
2016	8.25%	24.11%	1,346.9	324.8	9,294.2	6,754.7	2,539.5	72.7%	24.10%	6,754.7	72.7%
2017	8.25%	24.11%	1,397.4	336.9	9,684.8	7,206.0	2,478.8	74.4%	24.10%	7,206.0	74.4%
2018	8.25%	24.10%	1,449.8	349.5	10,089.3	7,686.3	2,403.1	76.2%	24.09%	7,686.3	76.2%
2019	8.25%	24.10%	1,504.2	362.5	10,506.9	8,196.2	2,310.7	78.0%	24.08%	8,196.2	78.0%
2020	8.25%	24.09%	1,560.6	375.9	10,939.9	8,740.1	2,199.8	79.9%	24.07%	8,740.1	79.9%
2021	8.25%	24.08%	1,619.1	389.9	11,389.3	9,320.6	2,068.7	81.8%	24.06%	9,320.6	81.8%
2022	8.25%	24.07%	1,679.9	404.4	11,857.3	9,942.2	1,915.1	83.8%	24.05%	9,942.2	83.8%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation

Teachers

Treasurer's Proposal D

Current Vested (Not Eligible for Retirement) No Change

Nonvested and Future Hires: Minimum Retirement Age (55) and Formula C (No Modified COLA)

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,320.3	3,427.7	1,892.6	64.4%	18.08%	2,729.8	51.3%
2004	8.25%	14.84%	865.9	128.5	5,564.2	3,343.2	2,221.0	60.1%	20.51%	3,140.2	56.4%
2005	8.25%	18.08%	898.4	162.4	5,810.7	3,283.1	2,527.6	56.5%	22.62%	3,292.5	56.7%
2006	8.25%	20.51%	932.1	191.1	6,061.2	3,390.1	2,671.0	55.9%	23.26%	3,475.1	57.3%
2007	8.25%	22.62%	967.1	218.8	6,315.7	3,627.4	2,688.3	57.4%	22.96%	3,685.0	58.3%
2008	8.25%	23.26%	1,003.3	233.4	6,575.7	3,924.3	2,651.3	59.7%	22.43%	3,924.3	59.7%
2009	8.25%	22.96%	1,040.9	239.0	6,842.9	4,183.3	2,659.7	61.1%	22.42%	4,183.3	61.1%
2010	8.25%	22.43%	1,080.0	242.2	7,119.8	4,455.8	2,664.0	62.6%	22.42%	4,455.8	62.6%
2011	8.25%	22.42%	1,120.5	251.3	7,406.9	4,740.2	2,666.7	64.0%	22.42%	4,740.2	64.0%
2012	8.25%	22.42%	1,162.5	260.6	7,704.1	5,042.7	2,661.5	65.5%	22.41%	5,042.7	65.5%
2013	8.25%	22.42%	1,206.1	270.4	8,010.7	5,363.3	2,647.4	67.0%	22.40%	5,363.3	67.0%
2014	8.25%	22.41%	1,251.3	280.4	8,325.9	5,702.4	2,623.5	68.5%	22.40%	5,702.4	68.5%
2015	8.25%	22.40%	1,298.2	290.9	8,650.0	6,061.4	2,588.6	70.1%	22.39%	6,061.4	70.1%
2016	8.25%	22.40%	1,346.9	301.7	8,982.9	6,441.5	2,541.5	71.7%	22.39%	6,441.5	71.7%
2017	8.25%	22.39%	1,397.4	313.0	9,325.0	6,844.3	2,480.7	73.4%	22.38%	6,844.3	73.4%
2018	8.25%	22.39%	1,449.8	324.6	9,676.6	7,271.7	2,404.9	75.1%	22.37%	7,271.7	75.1%
2019	8.25%	22.38%	1,504.2	336.7	10,036.4	7,724.0	2,312.4	77.0%	22.37%	7,724.0	77.0%
2020	8.25%	22.37%	1,560.6	349.2	10,406.6	8,205.1	2,201.5	78.8%	22.36%	8,205.1	78.8%
2021	8.25%	22.37%	1,619.1	362.2	10,787.8	8,717.5	2,070.3	80.8%	22.35%	8,717.5	80.8%
2022	8.25%	22.36%	1,679.9	375.6	11,181.9	9,265.3	1,916.6	82.9%	22.33%	9,265.3	82.9%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Formula C, Retirement at 60/30 or Age 65
No Change for Members Already Active

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,566.4	2,267.7	1,298.8	63.6%	15.83%	1,811.0	50.8%
2004	8.25%	11.51%	628.8	72.4	3,744.4	2,215.2	1,529.2	59.2%	18.17%	2,085.1	55.7%
2005	8.25%	15.83%	652.4	103.3	3,923.6	2,183.8	1,739.8	55.7%	20.21%	2,191.6	55.9%
2006	8.25%	18.17%	676.9	123.0	4,105.9	2,270.5	1,835.4	55.3%	20.77%	2,326.9	56.7%
2007	8.25%	20.21%	702.3	141.9	4,290.9	2,442.7	1,848.1	56.9%	20.50%	2,481.0	57.8%
2008	8.25%	20.77%	728.6	151.4	4,477.8	2,653.8	1,824.0	59.3%	20.02%	2,653.8	59.3%
2009	8.25%	20.50%	755.9	155.0	4,666.7	2,836.8	1,829.9	60.8%	20.01%	2,836.8	60.8%
2010	8.25%	20.02%	784.3	157.0	4,857.7	3,024.6	1,833.0	62.3%	20.01%	3,024.6	62.3%
2011	8.25%	20.01%	813.7	162.8	5,050.5	3,215.6	1,834.9	63.7%	20.00%	3,215.6	63.7%
2012	8.25%	20.01%	844.2	168.9	5,244.5	3,413.2	1,831.3	65.1%	20.00%	3,413.2	65.1%
2013	8.25%	20.00%	875.8	175.2	5,439.4	3,617.8	1,821.6	66.5%	19.99%	3,617.8	66.5%
2014	8.25%	20.00%	908.7	181.7	5,635.4	3,830.2	1,805.1	68.0%	19.99%	3,830.2	68.0%
2015	8.25%	19.99%	942.8	188.5	5,832.9	4,051.7	1,781.1	69.5%	19.98%	4,051.7	69.5%
2016	8.25%	19.99%	978.1	195.5	6,031.6	4,282.9	1,748.7	71.0%	19.98%	4,282.9	71.0%
2017	8.25%	19.98%	1,014.8	202.8	6,231.0	4,524.1	1,706.9	72.6%	19.97%	4,524.1	72.6%
2018	8.25%	19.98%	1,052.9	210.3	6,430.7	4,776.0	1,654.8	74.3%	19.96%	4,776.0	74.3%
2019	8.25%	19.97%	1,092.3	218.1	6,631.3	5,040.2	1,591.1	76.0%	19.96%	5,040.2	76.0%
2020	8.25%	19.96%	1,133.3	226.2	6,833.0	5,318.2	1,514.8	77.8%	19.95%	5,318.2	77.8%
2021	8.25%	19.96%	1,175.8	234.7	7,036.8	5,612.3	1,424.5	79.8%	19.94%	5,612.3	79.8%
2022	8.25%	19.95%	1,219.9	243.3	7,243.5	5,924.8	1,318.8	81.8%	19.93%	5,924.8	81.8%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation

State Employees

Formula C, Retirement at 60/30 or Age 65
No Change for Members Already Vested

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,516.1	2,267.7	1,248.5	64.5%	15.22%	1,811.0	51.5%
2004	8.25%	11.51%	628.8	72.4	3,689.9	2,215.2	1,474.7	60.0%	17.56%	2,085.1	56.5%
2005	8.25%	15.22%	652.4	99.3	3,864.7	2,183.8	1,680.9	56.5%	19.60%	2,191.6	56.7%
2006	8.25%	17.56%	676.9	118.8	4,042.3	2,266.5	1,775.8	56.1%	20.16%	2,322.8	57.5%
2007	8.25%	19.60%	702.3	137.6	4,222.1	2,434.2	1,787.9	57.7%	19.89%	2,472.4	58.6%
2008	8.25%	20.16%	728.6	146.9	4,403.6	2,640.3	1,763.3	60.0%	19.40%	2,640.3	60.0%
2009	8.25%	19.89%	755.9	150.4	4,586.8	2,818.0	1,768.8	61.4%	19.40%	2,818.0	61.4%
2010	8.25%	19.40%	784.3	152.2	4,771.7	3,000.0	1,771.7	62.9%	19.40%	3,000.0	62.9%
2011	8.25%	19.40%	813.7	157.9	4,958.3	3,184.8	1,773.5	64.2%	19.39%	3,184.8	64.2%
2012	8.25%	19.40%	844.2	163.7	5,145.9	3,375.9	1,770.0	65.6%	19.39%	3,375.9	65.6%
2013	8.25%	19.39%	875.8	169.8	5,334.2	3,573.5	1,760.7	67.0%	19.38%	3,573.5	67.0%
2014	8.25%	19.39%	908.7	176.2	5,523.4	3,778.7	1,744.8	68.4%	19.38%	3,778.7	68.4%
2015	8.25%	19.38%	942.8	182.7	5,714.0	3,992.5	1,721.6	69.9%	19.37%	3,992.5	69.9%
2016	8.25%	19.38%	978.1	189.5	5,905.8	4,215.6	1,690.2	71.4%	19.37%	4,215.6	71.4%
2017	8.25%	19.37%	1,014.8	196.6	6,098.0	4,448.2	1,649.8	72.9%	19.36%	4,448.2	72.9%
2018	8.25%	19.37%	1,052.9	203.9	6,290.5	4,691.1	1,599.4	74.6%	19.35%	4,691.1	74.6%
2019	8.25%	19.36%	1,092.3	211.5	6,483.8	4,945.9	1,537.9	76.3%	19.35%	4,945.9	76.3%
2020	8.25%	19.35%	1,133.3	219.3	6,678.2	5,214.0	1,464.2	78.1%	19.34%	5,214.0	78.1%
2021	8.25%	19.35%	1,175.8	227.5	6,874.4	5,497.5	1,376.9	80.0%	19.33%	5,497.5	80.0%
2022	8.25%	19.34%	1,219.9	235.9	7,073.6	5,799.0	1,274.7	82.0%	19.32%	5,799.0	82.0%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation

Teachers

Formula C, Retirement at 60/30 or Age 65
No Change for Members Already Active

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,539.6	3,427.7	2,111.9	61.9%	18.47%	2,729.8	49.3%
2004	8.25%	14.84%	865.9	128.5	5,789.7	3,343.2	2,446.5	57.7%	20.90%	3,140.2	54.2%
2005	8.25%	18.47%	898.4	165.9	6,042.6	3,283.1	2,759.6	54.3%	23.01%	3,292.5	54.5%
2006	8.25%	20.90%	932.1	194.8	6,299.5	3,393.8	2,905.7	53.9%	23.65%	3,478.7	55.2%
2007	8.25%	23.01%	967.1	222.5	6,560.4	3,635.1	2,925.3	55.4%	23.35%	3,692.7	56.3%
2008	8.25%	23.65%	1,003.3	237.3	6,826.8	3,936.5	2,890.3	57.7%	22.82%	3,936.5	57.7%
2009	8.25%	23.35%	1,040.9	243.1	7,100.5	4,200.5	2,900.1	59.2%	22.81%	4,200.5	59.2%
2010	8.25%	22.82%	1,080.0	246.4	7,383.8	4,478.5	2,905.3	60.7%	22.81%	4,478.5	60.7%
2011	8.25%	22.81%	1,120.5	255.6	7,677.1	4,768.9	2,908.2	62.1%	22.80%	4,768.9	62.1%
2012	8.25%	22.81%	1,162.5	265.1	7,980.4	5,077.9	2,902.5	63.6%	22.80%	5,077.9	63.6%
2013	8.25%	22.80%	1,206.1	275.0	8,292.9	5,405.7	2,887.2	65.2%	22.79%	5,405.7	65.2%
2014	8.25%	22.80%	1,251.3	285.3	8,613.6	5,752.5	2,861.1	66.8%	22.79%	5,752.5	66.8%
2015	8.25%	22.79%	1,298.2	295.9	8,942.8	6,119.7	2,823.0	68.4%	22.78%	6,119.7	68.4%
2016	8.25%	22.79%	1,346.9	306.9	9,280.5	6,508.9	2,771.6	70.1%	22.77%	6,508.9	70.1%
2017	8.25%	22.78%	1,397.4	318.3	9,626.9	6,921.5	2,705.4	71.9%	22.77%	6,921.5	71.9%
2018	8.25%	22.77%	1,449.8	330.2	9,982.1	7,359.4	2,622.7	73.7%	22.76%	7,359.4	73.7%
2019	8.25%	22.77%	1,504.2	342.5	10,344.9	7,823.0	2,521.9	75.6%	22.75%	7,823.0	75.6%
2020	8.25%	22.76%	1,560.6	355.2	10,717.4	8,316.4	2,400.9	77.6%	22.74%	8,316.4	77.6%
2021	8.25%	22.75%	1,619.1	368.3	11,099.9	8,842.1	2,257.8	79.7%	22.73%	8,842.1	79.7%
2022	8.25%	22.74%	1,679.9	382.0	11,494.1	9,403.9	2,090.2	81.8%	22.72%	9,403.9	81.8%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Formula C, Retirement at 60/30 or Age 65
No Change for Members Already Vested

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,344.7	3,427.7	1,917.0	64.1%	16.74%	2,729.8	51.1%
2004	8.25%	14.84%	865.9	128.5	5,578.8	3,343.2	2,235.5	59.9%	19.17%	3,140.3	56.3%
2005	8.25%	16.74%	898.4	150.4	5,814.3	3,283.1	2,531.1	56.5%	21.29%	3,292.5	56.6%
2006	8.25%	19.17%	932.1	178.7	6,052.3	3,377.8	2,674.6	55.8%	21.93%	3,462.7	57.2%
2007	8.25%	21.29%	967.1	205.9	6,293.1	3,601.3	2,691.9	57.2%	21.63%	3,658.9	58.1%
2008	8.25%	21.93%	1,003.3	220.0	6,537.9	3,883.0	2,654.9	59.4%	21.09%	3,883.0	59.4%
2009	8.25%	21.63%	1,040.9	225.1	6,788.6	4,125.3	2,663.3	60.8%	21.09%	4,125.3	60.8%
2010	8.25%	21.09%	1,080.0	227.8	7,047.4	4,379.8	2,667.7	62.1%	21.09%	4,379.8	62.1%
2011	8.25%	21.09%	1,120.5	236.3	7,315.1	4,644.7	2,670.3	63.5%	21.08%	4,644.7	63.5%
2012	8.25%	21.09%	1,162.5	245.1	7,591.5	4,926.4	2,665.1	64.9%	21.08%	4,926.4	64.9%
2013	8.25%	21.08%	1,206.1	254.3	7,875.8	5,224.8	2,651.0	66.3%	21.07%	5,224.8	66.3%
2014	8.25%	21.08%	1,251.3	263.7	8,167.0	5,539.9	2,627.1	67.8%	21.07%	5,539.9	67.8%
2015	8.25%	21.07%	1,298.2	273.6	8,465.4	5,873.3	2,592.1	69.4%	21.06%	5,873.3	69.4%
2016	8.25%	21.07%	1,346.9	283.7	8,770.9	6,226.0	2,544.9	71.0%	21.05%	6,226.0	71.0%
2017	8.25%	21.06%	1,397.4	294.3	9,083.5	6,599.4	2,484.1	72.7%	21.05%	6,599.4	72.7%
2018	8.25%	21.05%	1,449.8	305.3	9,403.8	6,995.5	2,408.2	74.4%	21.04%	6,995.5	74.4%
2019	8.25%	21.05%	1,504.2	316.6	9,729.9	7,414.3	2,315.6	76.2%	21.03%	7,414.3	76.2%
2020	8.25%	21.04%	1,560.6	328.4	10,063.7	7,859.1	2,204.6	78.1%	21.02%	7,859.1	78.1%
2021	8.25%	21.03%	1,619.1	340.5	10,405.2	8,332.1	2,073.1	80.1%	21.01%	8,332.1	80.1%
2022	8.25%	21.02%	1,679.9	353.2	10,756.6	8,837.4	1,919.2	82.2%	21.00%	8,837.4	82.2%

6. Pension Obligation Bonds – There were several inquiries regarding the impact of pension obligation bonds in terms of the overall liability of the pension system as well as the employer contribution rates. There were essentially two types of models developed to determine the impact of pension obligation bonds:

   Model 1 – The first series of models were designed to determine what amount of pension obligation bonds would be needed to stabilize current employer contribution rates over the projection period. The Consultant assumed that the pension obligation bonds would be taken into account beginning with the June 30, 2005 actuarial valuation (FY 2008). It should be noted that the projection provided does not address the State/municipal share of the employer contribution for the pension.

   For both teachers and state employees, it was projected that the State would have to infuse approximately $850 million in total pension obligation bonds to maintain existing employer contribution rates of 16.96 percent for State employees and 20.01 percent for teachers.

   The Consultant determined that it would require approximately $350.0 million in pension obligation bonds for the State employee pension system to maintain the 16.96 percent contribution rate. This would result in a higher funded ratio over the projection period. The $500.0 million balance would be needed to maintain the 20.01 percent contribution rate in the teacher pension fund. This would also result in higher funded ratios throughout the projection period.

   Model 2 – Under this model, the consultant was asked to determine the impact if $100 million in pension obligation bonds were contributed to each of the pension systems (state employees and teachers). The consultant did not attempt to disaggregate the teacher impact between state and municipal contribution rates. It was assumed that the $200.0 million in pension obligation bonds would not impact the pension systems until FY 2008. The Baseline employer contribution rate in FY 2008 for State employees is 21.34 percent, with a projected contribution of $149.9 million. The Baseline employer contribution rate in FY 2008 for teachers is 24.55 percent, with a projected contribution of $237.4 million.

   The proposal would reduce the projected FY 2008 employer contribution rate for State employees to 20.15 percent – reducing the FY 2008 contribution to $141.5 million – a decline of $8.4 million. The contribution rate for teachers would decline to 23.69 percent, reducing the contribution to $229.1 million – a decline of $8.3 million. Given the infusion of the pension obligation bonds, the funded ratios for both pension systems would improve. Although the combined employer contribution rate for teachers and state employees would decline by $16.7 million, debt service on the bonds would total $13.0 million in 2008, rising to $26.8 million in FY 2029 (assuming current market conditions).

IV. Pension Team Recommendations

Based on the extensive information analyzed during the course of this review, it is clear that changes are needed to ensure the long term financial viability while providing an equitable retirement system for its members. The time to enact changes is now before the funding for the system reaches a crisis mode. Some of the recommended changes are benefit related while others provide additional funding options.

As shown previously, the employer cost for the current structure of the State Employees Retirement System is projected to increase by 157.6% from fiscal 2004 to fiscal 2008. If no changes are made to the pension system, by fiscal 2008, the State of Rhode Island will need to appropriate $149.9 million to support just the State Employees Retirement Plan. This is an additional $91.7 million dollars over the fiscal 2004 levels. This is coupled with the fact that similar increases occur on the Teacher Retirement Plan. Again, if no changes are made, by fiscal 2008, both the State of Rhode Island and its cities and towns must appropriate a total of $237.4 million. This is an increase of 107.3% or $122.9 million over the FY 2004 appropriation. The increase in pension costs between fiscal 2004 and fiscal 2008 to support the two systems equals $214.6 million. This is more than double the current appropriation and in 2009 will total $422.6 million.

There is concern that the State of Rhode Island will be unable to support this level of increase in appropriation. This team also strongly believes that future changes to funding practices that reduce the overall funding ratio or negatively impact the financial health of the fund must be prohibited. Based on the research, the Rhode Island Retirement System's unfunded liability will continue to grow without prudent changes. This can impact the State's ability to fund other programs and affect the overall bond rating of the State. The State needs to ensure that progress is being made to fund this large liability.

The Pension Review Team recognized that changes can only occur through legislative action. As an ad hoc committee established by the Governor, this report will be submitted to the Governor.

The following recommendations were proposed by some members of the Pension Review Team. The proposals and related votes by the team are listed below.

A. Chairman's Recommendations

The chairman proposed that certain benefit level changes be implemented along with a supplemental funding structure for both the Teachers and the State Employee Retirement System. The benefit changes being proposed covered only two segments of the employee population. The changes would apply to 1) new employees hired after the effective date of the legislation and 2) those employees who had not yet reached the 10 year vesting period. All other employees would receive the benefits currently in existence. The proposed changes are as follows:

Benefit Changes

Eligibility

Minimum age 57 with 28 years of service
Minimum age 65 with 10 years of service

Benefit Accrual Formula

Years 1-10	1.60%	
Years 11-20	1.80%	
Years 21-25	2.00%	
Years 26-27	2.25%	
Years 28-30	2.50%	
Years 31-38	3.00%	
Total	80.00%	at 38 years

COLA

Applied at the third January after retirement
Applied at a rate of the previous year CPI
Maximum rate of increase set at 3%

The benefit level changes recommended under this proposal would reduce the annual employer cost for 1) state employees by approximately $11,000,000 and 2) teachers by approximately $25,000,000. Over a twenty year period, the approximate savings for the State and Teacher plans would amount to $720,000,000.

Supplemental Funding

As shown in the research comparing the State of Rhode Island Retirement System to other large governmental plans, a large number of plans have either fully funded their unfunded liability or are currently over 80% funded. As mentioned previously, the funded ratio for the State Employee Plan is 65.5% while the funded ratio for the Teachers Plan is 64.9%. Based on actuarial projections, this ratio is expected to decrease to just under 57% by fiscal 2007 for the State Employee Plan and just over 56% for the Teacher Plan. The funded status of the plan must increase over time rather than decrease to protect the financial integrity of the system. In addition, a downward trend in funding can raise concerns by the debt rating agencies regarding the State's long term ability to fund the pension liabilities.

If the State of Rhode Island is to reduce the burden of payments to the pension system, it has to adhere to a funding plan that eventually eliminates the unfunded liability. As of today the unfunded liability is scheduled to be retired in the fiscal year 2029. The State can increase our funding ratio by providing supplemental dollars to the unfunded liability. Given the financial times that the State is in, additional funding is difficult to provide on an annual appropriation basis

As part of the Chairman's proposal the following supplemental funding structure was presented. This funding would provide direct payments to the retirement system only if the State ran an operating surplus for a given fiscal year. Under this structure, the State would not be straddled with annual additional payments but would only provide funding during those positive years in which the State could afford to do so. The details of the funding proposal are outlined below:

- Funding would only occur if the general fund operating surplus in a given fiscal year exceeded $30,000,000.
- 50% of the general fund operating surplus in excess of $30,000,000 for the fiscal year would be set aside and divided three ways. One third would be paid into the state employees retirement system. One third would be paid into the Teacher' retirement system. One third would be paid into the retiree health unfunded liability.

How would this be administered?

- By May of each fiscal year, the State would identify any projected surplus exceeding the $30,000,000. Once identified, 50% of that amount would be set aside in a restricted account and held until the audit for the fiscal year is complete. Funds placed in the restricted account could not be allocated for the upcoming fiscal year budget. Upon completion of the audit, the amount set aside would be adjusted based on the audited financials and then forwarded to the retirement system as outlined above.
- Once the funding is received by the retirement system, funds allocated to the teacher retirement system would be further distributed to individual subtrust accounts to account for the state's share of the unfunded liability.

The pension review team had extensive discussion on the proposal. The team was split on the benefit changes but endorsed the funding proposal. There were questions raised by some members on not the substance of the funding proposal, but how the funding proposal would be implemented. A motion was made and a vote taken. The vote was a 6 – 6 tie. Members voting in the affirmative felt strongly that benefit changes were needed in order to reduce the significant growth in costs of the system and ensure the long term financial health of the system. Members representing labor felt as strongly that employees are paying a significant share of the cost and should not be receiving reduced benefits due to prior decisions by the State.

Since there was a split vote, the proposal is listed in the report as an item to be considered by the governor for legislative action. Schedules projecting the impact of the benefit changes compared to the current structure is provided on the following pages.

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Baseline

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,461.7	2,267.7	1,194.0	65.5%	16.96%	1,811.0	52.3%
2004	8.25%	11.51%	628.8	72.4	3,644.3	2,215.2	1,429.1	60.8%	19.30%	2,085.1	57.2%
2005	8.25%	16.96%	652.4	110.7	3,829.1	2,183.8	1,645.3	57.0%	21.34%	2,191.6	57.2%
2006	8.25%	19.30%	676.9	130.6	4,018.0	2,278.1	1,739.8	56.7%	21.90%	2,334.5	58.1%
2007	8.25%	21.34%	702.3	149.9	4,210.5	2,458.9	1,751.6	58.4%	21.63%	2,497.2	59.3%
2008	8.25%	21.90%	728.6	159.6	4,406.3	2,679.6	1,726.6	60.8%	21.14%	2,679.6	60.8%
2009	8.25%	21.63%	755.9	163.5	4,605.3	2,873.3	1,732.0	62.4%	21.14%	2,873.3	62.4%
2010	8.25%	21.14%	784.3	165.8	4,807.8	3,073.0	1,734.8	63.9%	21.14%	3,073.0	63.9%
2011	8.25%	21.14%	813.7	172.0	5,013.7	3,277.2	1,736.5	65.4%	21.13%	3,277.2	65.4%
2012	8.25%	21.14%	844.2	178.4	5,222.5	3,489.5	1,733.1	66.8%	21.13%	3,489.5	66.8%
2013	8.25%	21.13%	875.8	185.1	5,434.1	3,710.2	1,723.9	68.3%	21.12%	3,710.2	68.3%
2014	8.25%	21.13%	908.7	192.0	5,649.0	3,940.6	1,708.3	69.8%	21.12%	3,940.6	69.8%
2015	8.25%	21.12%	942.8	199.1	5,867.5	4,181.9	1,685.6	71.3%	21.11%	4,181.9	71.3%
2016	8.25%	21.12%	978.1	206.6	6,089.8	4,434.8	1,654.9	72.8%	21.11%	4,434.8	72.8%
2017	8.25%	21.11%	1,014.8	214.3	6,315.2	4,699.8	1,615.4	74.4%	21.10%	4,699.8	74.4%
2018	8.25%	21.11%	1,052.9	222.2	6,543.8	4,977.8	1,566.0	76.1%	21.10%	4,977.8	76.1%
2019	8.25%	21.10%	1,092.3	230.5	6,776.2	5,270.4	1,505.8	77.8%	21.09%	5,270.4	77.8%
2020	8.25%	21.10%	1,133.3	239.1	7,013.0	5,579.5	1,433.6	79.6%	21.08%	5,579.5	79.6%
2021	8.25%	21.09%	1,175.8	248.0	7,255.3	5,907.2	1,348.1	81.4%	21.07%	5,907.2	81.4%
2022	8.25%	21.08%	1,219.9	257.1	7,504.1	6,256.1	1,248.0	83.4%	21.06%	6,256.1	83.4%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Chair Recommendation

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,504.6	2,267.7	1,236.9	64.7%	15.29%	1,811.0	51.7%
2004	8.25%	11.51%	628.8	72.4	3,678.7	2,215.4	1,463.3	60.2%	17.62%	2,085.3	56.7%
2005	8.25%	15.29%	652.4	99.7	3,854.9	2,185.2	1,669.7	56.7%	19.66%	2,192.9	56.9%
2006	8.25%	17.62%	676.9	119.3	4,035.4	2,270.9	1,764.5	56.3%	20.23%	2,327.3	57.7%
2007	8.25%	19.66%	702.3	138.1	4,220.4	2,443.9	1,776.5	57.9%	19.96%	2,482.1	58.8%
2008	8.25%	20.23%	728.6	147.4	4,409.5	2,657.7	1,751.8	60.3%	19.47%	2,657.7	60.3%
2009	8.25%	19.96%	755.9	150.8	4,603.0	2,845.8	1,757.3	61.8%	19.46%	2,845.8	61.8%
2010	8.25%	19.47%	784.3	152.7	4,801.4	3,041.3	1,760.1	63.3%	19.46%	3,041.3	63.3%
2011	8.25%	19.46%	813.7	158.4	5,004.5	3,242.6	1,761.9	64.8%	19.46%	3,242.6	64.8%
2012	8.25%	19.46%	844.2	164.3	5,212.1	3,453.7	1,758.4	66.3%	19.45%	3,453.7	66.3%
2013	8.25%	19.46%	875.8	170.4	5,423.8	3,674.6	1,749.1	67.8%	19.45%	3,674.6	67.8%
2014	8.25%	19.45%	908.7	176.7	5,640.1	3,906.7	1,733.3	69.3%	19.44%	3,906.7	69.3%
2015	8.25%	19.45%	942.8	183.3	5,862.0	4,151.7	1,710.3	70.8%	19.44%	4,151.7	70.8%
2016	8.25%	19.44%	978.1	190.2	6,089.8	4,410.6	1,679.1	72.4%	19.43%	4,410.6	72.4%
2017	8.25%	19.44%	1,014.8	197.2	6,323.4	4,684.3	1,639.0	74.1%	19.42%	4,684.3	74.1%
2018	8.25%	19.43%	1,052.9	204.6	6,563.2	4,974.3	1,588.9	75.8%	19.42%	4,974.3	75.8%
2019	8.25%	19.42%	1,092.3	212.2	6,810.4	5,282.6	1,527.9	77.6%	19.41%	5,282.6	77.6%
2020	8.25%	19.42%	1,133.3	220.1	7,065.9	5,611.3	1,454.6	79.4%	19.40%	5,611.3	79.4%
2021	8.25%	19.41%	1,175.8	228.2	7,330.9	5,963.1	1,367.8	81.3%	19.39%	5,963.1	81.3%
2022	8.25%	19.40%	1,219.9	236.7	7,607.0	6,340.7	1,266.3	83.4%	19.38%	6,340.7	83.4%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Baseline

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,284.9	3,427.7	1,857.2	64.9%	20.01%	2,729.8	51.7%
2004	8.25%	14.84%	865.9	128.5	5,543.0	3,343.2	2,199.8	60.3%	22.44%	3,140.2	56.7%
2005	8.25%	20.01%	898.4	179.7	5,805.6	3,283.1	2,522.5	56.6%	24.55%	3,292.5	56.7%
2006	8.25%	22.44%	932.1	209.1	6,074.0	3,408.2	2,665.8	56.1%	25.19%	3,493.1	57.5%
2007	8.25%	24.55%	967.1	237.4	6,348.7	3,665.6	2,683.0	57.7%	24.89%	3,723.3	58.6%
2008	8.25%	25.19%	1,003.3	252.7	6,631.1	3,985.1	2,646.0	60.1%	24.36%	3,985.1	60.1%
2009	8.25%	24.89%	1,040.9	259.1	6,923.5	4,269.1	2,654.3	61.7%	24.36%	4,269.1	61.7%
2010	8.25%	24.36%	1,080.0	263.1	7,228.2	4,569.5	2,658.7	63.2%	24.35%	4,569.5	63.2%
2011	8.25%	24.36%	1,120.5	272.9	7,546.1	4,884.8	2,661.3	64.7%	24.35%	4,884.8	64.7%
2012	8.25%	24.35%	1,162.5	283.1	7,877.5	5,221.4	2,656.1	66.3%	24.34%	5,221.4	66.3%
2013	8.25%	24.35%	1,206.1	293.6	8,221.8	5,579.7	2,642.1	67.9%	24.34%	5,579.7	67.9%
2014	8.25%	24.34%	1,251.3	304.6	8,578.4	5,960.2	2,618.2	69.5%	24.33%	5,960.2	69.5%
2015	8.25%	24.34%	1,298.2	315.9	8,948.1	6,364.7	2,583.4	71.1%	24.33%	6,364.7	71.1%
2016	8.25%	24.33%	1,346.9	327.7	9,331.1	6,794.8	2,536.4	72.8%	24.32%	6,794.8	72.8%
2017	8.25%	24.33%	1,397.4	339.9	9,728.1	7,252.4	2,475.7	74.6%	24.31%	7,252.4	74.6%
2018	8.25%	24.32%	1,449.8	352.6	10,139.7	7,739.6	2,400.1	76.3%	24.31%	7,739.6	76.3%
2019	8.25%	24.31%	1,504.2	365.7	10,565.0	8,257.2	2,307.8	78.2%	24.30%	8,257.2	78.2%
2020	8.25%	24.31%	1,560.6	379.3	11,006.6	8,809.5	2,197.1	80.0%	24.29%	8,809.5	80.0%
2021	8.25%	24.30%	1,619.1	393.4	11,465.4	9,399.3	2,066.2	82.0%	24.28%	9,399.3	82.0%
2022	8.25%	24.29%	1,679.9	408.0	11,943.5	10,030.7	1,912.8	84.0%	24.27%	10,030.7	84.0%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Chair Recommendation

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,329.4	3,427.7	1,901.7	64.3%	17.19%	2,729.8	51.2%
2004	8.25%	14.84%	865.9	128.5	5,567.0	3,343.6	2,223.4	60.1%	19.62%	3,140.6	56.4%
2005	8.25%	17.19%	898.4	154.4	5,807.8	3,285.2	2,522.6	56.6%	21.73%	3,294.6	56.7%
2006	8.25%	19.62%	932.1	182.9	6,053.9	3,387.9	2,665.9	56.0%	22.37%	3,472.9	57.4%
2007	8.25%	21.73%	967.1	210.2	6,305.7	3,622.5	2,683.2	57.4%	22.08%	3,680.1	58.4%
2008	8.25%	22.37%	1,003.3	224.5	6,564.5	3,918.3	2,646.2	59.7%	21.54%	3,918.3	59.7%
2009	8.25%	22.08%	1,040.9	229.8	6,832.1	4,177.7	2,654.5	61.1%	21.54%	4,177.7	61.1%
2010	8.25%	21.54%	1,080.0	232.6	7,110.4	4,451.7	2,658.8	62.6%	21.53%	4,451.7	62.6%
2011	8.25%	21.54%	1,120.5	241.3	7,400.6	4,739.2	2,661.4	64.0%	21.53%	4,739.2	64.0%
2012	8.25%	21.53%	1,162.5	250.3	7,702.6	5,046.4	2,656.2	65.5%	21.52%	5,046.4	65.5%
2013	8.25%	21.53%	1,206.1	259.6	8,016.6	5,374.4	2,642.2	67.0%	21.52%	5,374.4	67.0%
2014	8.25%	21.52%	1,251.3	269.3	8,342.0	5,723.6	2,618.3	68.6%	21.51%	5,723.6	68.6%
2015	8.25%	21.52%	1,298.2	279.3	8,680.4	6,096.9	2,583.5	70.2%	21.51%	6,096.9	70.2%
2016	8.25%	21.51%	1,346.9	289.8	9,032.2	6,495.8	2,536.5	71.9%	21.50%	6,495.8	71.9%
2017	8.25%	21.51%	1,397.4	300.5	9,398.7	6,922.9	2,475.9	73.7%	21.49%	6,922.9	73.7%
2018	8.25%	21.50%	1,449.8	311.7	9,781.6	7,381.4	2,400.2	75.5%	21.49%	7,381.4	75.5%
2019	8.25%	21.49%	1,504.2	323.3	10,180.8	7,872.9	2,307.9	77.3%	21.48%	7,872.9	77.3%
2020	8.25%	21.49%	1,560.6	335.3	10,598.5	8,401.3	2,197.2	79.3%	21.47%	8,401.3	79.3%
2021	8.25%	21.48%	1,619.1	347.8	11,035.9	8,969.7	2,066.2	81.3%	21.46%	8,969.7	81.3%
2022	8.25%	21.47%	1,679.9	360.6	11,494.5	9,581.6	1,912.8	83.4%	21.45%	9,581.6	83.4%

B. **General Treasurer's Recommendation**

The General Treasurer also proposed certain benefit level changes coupled with supplemental funding. Certain segments of his proposal would apply to varying categories of employees as noted below.

For all current vested, non vested employees and future hires with the exception of those currently eligible to retire

COLA to be applied at the third January after retirement
COLA to be applied at a rate of the previous year CPI
COLA to carry a maximum rate of increase in any given year of 3%

For all non vested employees and future hires

Eligibility

Minimum Age 55

Change benefit accrual to

Years 1-10	1.60%
Years 11-20	1.80%
Years 21-25	2.00%
Years 26-30	2.25%
Years 31-37	2.50%
Year 38	2.25%
Total	75.00% at 38 years

The benefit level changes recommended under this proposal would reduce the annual employer cost for 1) state employees by approximately $13,700,000 and 2) teachers by approximately $26,400,000. Over a twenty-year period, the savings for the State and Teacher plans would amount to $802,000,000.

The General Treasurer also proposed that 30% of the annual savings be used to retire the unfunded liability. In addition, legislation would be submitted requiring the Legislature to fully fund the pension system based on rates determined by the actuary.

A motion was made to recommend this proposal to the Governor. Again the team discussed the proposal at length. The team voted and again the motion received six votes in the affirmative and six votes in the negative. Since there was a split vote, this proposal is listed in the report as an item to be considered by the governor for legislative action as well. Schedules projecting the impact of the benefit changes compared to the current structure are provided on the following pages.

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Baseline

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,461.7	2,267.7	1,194.0	65.5%	16.96%	1,811.0	52.3%
2004	8.25%	11.51%	628.8	72.4	3,644.3	2,215.2	1,429.1	60.8%	19.30%	2,085.1	57.2%
2005	8.25%	16.96%	652.4	110.7	3,829.1	2,183.8	1,645.3	57.0%	21.34%	2,191.6	57.2%
2006	8.25%	19.30%	676.9	130.6	4,018.0	2,278.1	1,739.8	56.7%	21.90%	2,334.5	58.1%
2007	8.25%	21.34%	702.3	149.9	4,210.5	2,458.9	1,751.6	58.4%	21.63%	2,497.2	59.3%
2008	8.25%	21.90%	728.6	159.6	4,406.3	2,679.6	1,726.6	60.8%	21.14%	2,679.6	60.8%
2009	8.25%	21.63%	755.9	163.5	4,605.3	2,873.3	1,732.0	62.4%	21.14%	2,873.3	62.4%
2010	8.25%	21.14%	784.3	165.8	4,807.8	3,073.0	1,734.8	63.9%	21.14%	3,073.0	63.9%
2011	8.25%	21.14%	813.7	172.0	5,013.7	3,277.2	1,736.5	65.4%	21.13%	3,277.2	65.4%
2012	8.25%	21.14%	844.2	178.4	5,222.5	3,489.5	1,733.1	66.8%	21.13%	3,489.5	66.8%
2013	8.25%	21.13%	875.8	185.1	5,434.1	3,710.2	1,723.9	68.3%	21.12%	3,710.2	68.3%
2014	8.25%	21.13%	908.7	192.0	5,649.0	3,940.6	1,708.3	69.8%	21.12%	3,940.6	69.8%
2015	8.25%	21.12%	942.8	199.1	5,867.5	4,181.9	1,685.6	71.3%	21.11%	4,181.9	71.3%
2016	8.25%	21.12%	978.1	206.6	6,089.8	4,434.8	1,654.9	72.8%	21.11%	4,434.8	72.8%
2017	8.25%	21.11%	1,014.8	214.3	6,315.2	4,699.8	1,615.4	74.4%	21.10%	4,699.8	74.4%
2018	8.25%	21.11%	1,052.9	222.2	6,543.8	4,977.8	1,566.0	76.1%	21.10%	4,977.8	76.1%
2019	8.25%	21.10%	1,092.3	230.5	6,776.2	5,270.4	1,505.8	77.8%	21.09%	5,270.4	77.8%
2020	8.25%	21.10%	1,133.3	239.1	7,013.0	5,579.5	1,433.6	79.6%	21.08%	5,579.5	79.6%
2021	8.25%	21.09%	1,175.8	248.0	7,255.3	5,907.2	1,348.1	81.4%	21.07%	5,907.2	81.4%
2022	8.25%	21.08%	1,219.9	257.1	7,504.1	6,256.1	1,248.0	83.4%	21.06%	6,256.1	83.4%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
State Employees

Treasurer's Proposal

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	7.68%	$ 586.9	$ 45.1	$ 3,284.1	$ 2,353.9	$ 930.3	71.7%	11.51%	$ 1,831.0	55.8%
2003	19.00%	9.60%	606.1	58.2	3,449.7	2,267.7	1,182.0	65.7%	14.87%	1,811.0	52.5%
2004	8.25%	11.51%	628.8	72.4	3,620.5	2,215.2	1,405.3	61.2%	17.20%	2,085.1	57.6%
2005	8.25%	14.87%	652.4	97.0	3,792.2	2,183.8	1,608.4	57.6%	19.25%	2,191.6	57.8%
2006	8.25%	17.20%	676.9	116.5	3,966.4	2,263.9	1,702.4	57.1%	19.81%	2,320.3	58.5%
2007	8.25%	19.25%	702.3	135.2	4,142.7	2,428.8	1,713.8	58.6%	19.54%	2,467.1	59.6%
2008	8.25%	19.81%	728.6	144.3	4,320.4	2,631.8	1,688.6	60.9%	19.05%	2,631.8	60.9%
2009	8.25%	19.54%	755.9	147.7	4,499.5	2,805.8	1,693.7	62.4%	19.05%	2,805.8	62.4%
2010	8.25%	19.05%	784.3	149.4	4,680.1	2,983.8	1,696.3	63.8%	19.04%	2,983.8	63.8%
2011	8.25%	19.05%	813.7	155.0	4,862.0	3,164.0	1,698.0	65.1%	19.04%	3,164.0	65.1%
2012	8.25%	19.04%	844.2	160.8	5,044.7	3,350.0	1,694.7	66.4%	19.03%	3,350.0	66.4%
2013	8.25%	19.04%	875.8	166.8	5,227.7	3,542.0	1,685.7	67.8%	19.03%	3,542.0	67.8%
2014	8.25%	19.03%	908.7	173.0	5,411.5	3,741.0	1,670.5	69.1%	19.03%	3,741.0	69.1%
2015	8.25%	19.03%	942.8	179.4	5,596.3	3,948.1	1,648.3	70.5%	19.02%	3,948.1	70.5%
2016	8.25%	19.03%	978.1	186.1	5,782.2	4,163.9	1,618.3	72.0%	19.01%	4,163.9	72.0%
2017	8.25%	19.02%	1,014.8	193.0	5,968.3	4,388.7	1,579.6	73.5%	19.01%	4,388.7	73.5%
2018	8.25%	19.01%	1,052.9	200.2	6,154.7	4,623.3	1,531.3	75.1%	19.00%	4,623.3	75.1%
2019	8.25%	19.01%	1,092.3	207.7	6,341.7	4,869.3	1,472.5	76.8%	19.00%	4,869.3	76.8%
2020	8.25%	19.00%	1,133.3	215.4	6,530.0	5,128.2	1,401.8	78.5%	18.99%	5,128.2	78.5%
2021	8.25%	19.00%	1,175.8	223.4	6,720.4	5,402.1	1,318.2	80.4%	18.98%	5,402.1	80.4%
2022	8.25%	18.99%	1,219.9	231.6	6,913.9	5,693.6	1,220.4	82.3%	18.97%	5,693.6	82.3%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Baseline

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return

Uses Member and Financial Data as of June 30, 2003

Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter

Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,284.9	3,427.7	1,857.2	64.9%	20.01%	2,729.8	51.7%
2004	8.25%	14.84%	865.9	128.5	5,543.0	3,343.2	2,199.8	60.3%	22.44%	3,140.2	56.7%
2005	8.25%	20.01%	898.4	179.7	5,805.6	3,283.1	2,522.5	56.6%	24.55%	3,292.5	56.7%
2006	8.25%	22.44%	932.1	209.1	6,074.0	3,408.2	2,665.8	56.1%	25.19%	3,493.1	57.5%
2007	8.25%	24.55%	967.1	237.4	6,348.7	3,665.6	2,683.0	57.7%	24.89%	3,723.3	58.6%
2008	8.25%	25.19%	1,003.3	252.7	6,631.1	3,985.1	2,646.0	60.1%	24.36%	3,985.1	60.1%
2009	8.25%	24.89%	1,040.9	259.1	6,923.5	4,269.1	2,654.3	61.7%	24.36%	4,269.1	61.7%
2010	8.25%	24.36%	1,080.0	263.1	7,228.2	4,569.5	2,658.7	63.2%	24.35%	4,569.5	63.2%
2011	8.25%	24.36%	1,120.5	272.9	7,546.1	4,884.8	2,661.3	64.7%	24.35%	4,884.8	64.7%
2012	8.25%	24.35%	1,162.5	283.1	7,877.5	5,221.4	2,656.1	66.3%	24.34%	5,221.4	66.3%
2013	8.25%	24.35%	1,206.1	293.6	8,221.8	5,579.7	2,642.1	67.9%	24.34%	5,579.7	67.9%
2014	8.25%	24.34%	1,251.3	304.6	8,578.4	5,960.2	2,618.2	69.5%	24.33%	5,960.2	69.5%
2015	8.25%	24.34%	1,298.2	315.9	8,948.1	6,364.7	2,583.4	71.1%	24.33%	6,364.7	71.1%
2016	8.25%	24.33%	1,346.9	327.7	9,331.1	6,794.8	2,536.4	72.8%	24.32%	6,794.8	72.8%
2017	8.25%	24.33%	1,397.4	339.9	9,728.1	7,252.4	2,475.7	74.6%	24.31%	7,252.4	74.6%
2018	8.25%	24.32%	1,449.8	352.6	10,139.7	7,739.6	2,400.1	76.3%	24.31%	7,739.6	76.3%
2019	8.25%	24.31%	1,504.2	365.7	10,565.0	8,257.2	2,307.8	78.2%	24.30%	8,257.2	78.2%
2020	8.25%	24.31%	1,560.6	379.3	11,006.6	8,809.5	2,197.1	80.0%	24.29%	8,809.5	80.0%
2021	8.25%	24.30%	1,619.1	393.4	11,465.4	9,399.3	2,066.2	82.0%	24.28%	9,399.3	82.0%
2022	8.25%	24.29%	1,679.9	408.0	11,943.5	10,030.7	1,912.8	84.0%	24.27%	10,030.7	84.0%

Employees' Retirement System of Rhode Island

Projection Results Based on June 30, 2003 Actuarial Valuation
Teachers

Treasurer's Proposal

Based on Proposed Assumptions from 2004 Experience Study, Including 8.25% Assumed Investment Return
Uses Member and Financial Data as of June 30, 2003
Market Earnings: 19.00% for FY 2004, Constant 8.25% for FY 2005 and Thereafter
Contribution Rate: Actuarially Calculated Rates

Valuation as of July 1,	Market Return for FY Beginning on Valuation Date	Employer Contribution Rate for Fiscal Year Following Valuation Date	Compensation (in Millions)	Employer Contributions (in Millions)	Actuarial Accrued Liability (AAL, in Millions)	Actuarial Value of Assets (AVA, in Millions)	Unfunded Actuarial Accrued Liability (UAAL, in Millions)	Funded Ratio	Calculated Employer Contribution Rate, Applicable for Fiscal Year Beginning Two Years Hence	Market Value of Assets (MVA, in Millions)	Funded Ratio Using MVA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2002	2.65%	11.97%	$ 792.0	$ 94.8	$ 4,857.0	$ 3,553.8	$ 1,303.2	73.2%	14.84%	$ 2,754.2	56.7%
2003	19.00%	13.72%	834.6	114.5	5,267.1	3,427.7	1,839.4	65.1%	17.06%	2,729.8	51.8%
2004	8.25%	14.84%	865.9	128.5	5,502.4	3,343.2	2,159.2	60.8%	19.49%	3,140.2	57.1%
2005	8.25%	17.06%	898.4	153.3	5,739.5	3,283.1	2,456.4	57.2%	21.60%	3,292.5	57.4%
2006	8.25%	19.49%	932.1	181.7	5,979.5	3,380.6	2,599.0	56.5%	22.24%	3,465.5	58.0%
2007	8.25%	21.60%	967.1	208.9	6,222.7	3,607.2	2,615.5	58.0%	21.95%	3,664.8	58.9%
2008	8.25%	22.24%	1,003.3	223.2	6,470.2	3,892.2	2,577.9	60.2%	21.41%	3,892.2	60.2%
2009	8.25%	21.95%	1,040.9	228.4	6,723.9	4,138.0	2,585.8	61.5%	21.41%	4,138.0	61.5%
2010	8.25%	21.41%	1,080.0	231.2	6,985.9	4,396.0	2,589.9	62.9%	21.40%	4,396.0	62.9%
2011	8.25%	21.41%	1,120.5	239.9	7,256.9	4,664.4	2,592.5	64.3%	21.40%	4,664.4	64.3%
2012	8.25%	21.40%	1,162.5	248.8	7,536.7	4,949.3	2,587.4	65.7%	21.39%	4,949.3	65.7%
2013	8.25%	21.40%	1,206.1	258.1	7,824.6	5,250.9	2,573.8	67.1%	21.39%	5,250.9	67.1%
2014	8.25%	21.39%	1,251.3	267.7	8,119.7	5,569.2	2,550.5	68.6%	21.38%	5,569.2	68.6%
2015	8.25%	21.39%	1,298.2	277.7	8,422.2	5,905.6	2,516.6	70.1%	21.38%	5,905.6	70.1%
2016	8.25%	21.38%	1,346.9	288.0	8,732.2	6,261.4	2,470.7	71.7%	21.37%	6,261.4	71.7%
2017	8.25%	21.38%	1,397.4	298.7	9,049.8	6,638.1	2,411.7	73.4%	21.37%	6,638.1	73.4%
2018	8.25%	21.37%	1,449.8	309.9	9,375.4	7,037.4	2,338.0	75.1%	21.36%	7,037.4	75.1%
2019	8.25%	21.37%	1,504.2	321.4	9,707.8	7,459.7	2,248.1	76.8%	21.35%	7,459.7	76.8%
2020	8.25%	21.36%	1,560.6	333.3	10,049.1	7,908.8	2,140.3	78.7%	21.34%	7,908.8	78.7%
2021	8.25%	21.35%	1,619.1	345.7	10,399.7	8,387.0	2,012.7	80.6%	21.33%	8,387.0	80.6%
2022	8.25%	21.34%	1,679.9	358.5	10,761.9	8,898.6	1,863.3	82.7%	21.32%	8,898.6	82.7%

Pension Comparative Summary
Employer Cost Impact - Baseline vs Recommendations
(In Millions)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total Costs
Teacher Pension Plan																				
Baseline 2004	129	180	209	237	253	259	263	273	283	294	305	316	328	340	353	366	379	393	408	5,566
Chairman's Proposal	129	154	183	210	225	230	233	241	250	260	269	279	290	301	312	323	335	348	361	4,932
Annual Savings		**25**	**26**	**27**	**28**	**29**	**31**	**32**	**33**	**34**	**35**	**37**	**38**	**39**	**41**	**42**	**44**	**46**	**47**	**634**
Baseline 2004	129	180	209	237	253	259	263	273	283	294	305	316	328	340	353	366	379	393	408	5,566
Treasurer's Proposal	129	153	182	209	223	228	231	240	249	258	268	278	288	299	310	321	333	346	359	4,903
Annual Savings		**26**	**27**	**29**	**30**	**31**	**32**	**33**	**34**	**36**	**37**	**38**	**40**	**41**	**43**	**44**	**46**	**48**	**50**	**663**
State Employee Pension Plan																				
Baseline 2004	72	111	131	150	160	164	166	172	178	185	192	199	207	214	222	231	239	248	257	3,497
Chairman's Proposal	72	100	119	138	147	151	153	158	164	170	177	183	190	197	205	212	220	228	237	3,223
Annual Savings	**-**	**11**	**11**	**12**	**12**	**13**	**13**	**14**	**14**	**15**	**15**	**16**	**16**	**17**	**18**	**18**	**19**	**20**	**20**	**274**
Baseline 2004	72	111	131	150	160	164	166	172	178	185	192	199	207	214	222	231	239	248	257	3,497
Treasurer's Proposal	72	97	117	135	144	148	149	155	161	167	173	179	186	193	200	208	215	223	232	3,155
Annual Savings	**-**	**14**	**14**	**15**	**15**	**16**	**16**	**17**	**18**	**18**	**19**	**20**	**21**	**21**	**22**	**23**	**24**	**25**	**26**	**342**

C. Labor Representatives – Funding Recommendations

The Pension Review Team recognized that due to the causes mentioned in the report previously, the unfunded liability of the pension system continues to grow until 2006 and then declines annually until fully funded in 2029. During this time, the funded ratio or the percentage of the total actuarial accrued liability that is covered by available assets declines to just over 57% by 2006. In essence if the retirement system were to close down in 2006, only 57 cents of every dollar of liability would be covered by the assets on hand. This means that for teachers and state employees, the State could only cover the payments due by 57%.

While the State of Rhode Island is not likely to shut down, prudent financial management of any pension system dictates that at a point certain, assets in the plan need to be sufficient to cover the total liabilities accrued.

The members representing labor provided a series of recommendations to the team that covered additional means of providing funding to the system. These included the following:

1) The state through its Fiscal Fitness program is in the process of identifying surplus state property that may be sold. This proposal is to utilize any funds generated by the sale of these surplus properties and allocate them to the teacher and state employee retirement system on a proportional basis.

2) The State of Rhode Island has certain assets acquired by the State through economic development activities. A review of these assets should be undertaken to determine what assets if any should be transferred to the state retirement system as additional employer contribution.

3) All future gambling revenues in excess of those projected in the fiscal 2005 budget would be allocated as additional contributions directly to the teacher and state employee retirement systems until such time as the retirement system is fully funded. Half of the funds allocated within this structure would be used to retire the unfunded liability and half could offset the annual management contributions to the pension system.

4) Implement the surplus funding proposal proposed above by the Chairman.

5) Implement several funding proposals identified by the Treasurer previously. These include using proceeds from 1) refunding existing bond opportunities, 2) Sinking Fund Commission revenues and 3) Rhode Island Capital Fund assets.

6) Obtain passage of legislation requiring that the full funding of the pension system be adhered to based on actuarially established employer contribution rates

7) A study should be done to determine if assets of over-funded municipal plans could be transferred to offset or supplement local obligations to the teachers retirement plan. In addition, the Teachers' Survivors Benefit plan should be reviewed to determine if a portion of the surplus in this plan could be reallocated to the teacher retirement fund.

8) A committee similar in composition to the Pension Review Team should be required to convene at least every five years to consider the range of issues in the current study plus new issues that may arise.

Again significant discussion ensued regarding the proposals listed above. While there is support on the team to identify additional funding opportunities to pay down the unfunded liability of the retirement system, there was some concern raised on the ability to utilize certain funding mechanisms listed. In addition, some members expressed concern that all of these items represented additional funding and none were designed to slow the growth in cost of the pension plan currently in existence.

Under the understanding that the items listed in labor's proposal were concepts that would be reviewed for feasibility, a motion was made to include these recommendations in the report of the team. The team voted unanimously that the items be forwarded to the Governor for further review. All members agreed that more work needs to be done to bring these ideas to fruition and are committed to continuing their involvement to assess the viability of the proposals.

V. Conclusion

The pension system for the State of Rhode Island represents a significant responsibility to both the taxpayers of the State and the employees it's established for. Too many times in the past, decisions have been made (sometimes with the support of both labor and management) that have negatively impacted the total long term cost and prudent financial management of the system. Currently, the benefit level of the system along with the total cost to employees and employers has reached a point where it is unaffordable for either the taxpayers or the members that it is designed to serve. Truly there needs to be a structural change that is established, and more importantly, adhered to that provides an end to the ongoing payment of the unfunded liability. Similar to a home mortgage, there comes a time to retire the debt and stop paying interest on the outstanding liability. The unfunded liability is scheduled to be paid in full in the fiscal year 2029. This timeline must not be extended beyond this date. To fully appreciate this, based on current projections, in the year 2030 when the unfunded liability is fully paid, the employer cost annually will decrease by approximately $417,000,000 for teachers and $272,000,000 for state employees. This represents a combined total of an extraordinary $689,000,000 that would immediately become available for other needs of the state and municipalities (bonded debt reduction, housing, human services etc.). One caveat is that in the year the employer cost is reduced so dramatically, a similar reduction in employee cost should be activated as well.

The time has come to solve our pension problems. While we are not alone in this arena, we should be strong enough to reach solutions. All decisions made regarding the pension system should be made in a prudent manner to assure that the system is fair, affordable and financially sound. To do otherwise is not serving the needs of the citizens of our state, many of whom are state employees.

VI. Supplemental Information – Retirement Board Meeting

Subsequent to the June meeting of the Pension Review Team additional information was introduced to the State Retirement Board on July 14, 2004 by their actuary Gabriel Roeder and Smith. This presentation introduced new data based on an actuarial experience study. The intent of the study was to compare the actuarial assumptions in place with actual data over the prior seven-year period. In doing so, the actuary is able to determine if the actuarial assumptions accurately reflect the activity seen during this period of time. The report used for the presentation attempted to answer the following questions:

What was the plan's actual experience?

How does that compare with current assumptions?

Is a change warranted?

What is the financial impact of the recommended changes?

The assumptions studied over the prior seven years included:

Price inflation (CPI)

Investment return

Salary increases

Payroll growth rate

Mortality

Disability

Retirement

Other terminations (rates of terminations)

In essence the actuary reviewed the actual experience data for the items above and then compared them to the assumptions used in establishing the actuarial valuation and employer-funding rate. The actual to expected ratio is then used as a tool to support recommendations if the correlation is vastly different. What the Retirement Board then learned was unfortunately not good news. Many of the assumptions in place did not reflect the experience found in the retirement system over the past seven years. Based on the analysis, the actuary recommended the following assumption modifications:

Investment Return Rate	Decrease from 8.25% to 8.00%
Salary Increase Rates	Increase base increase from 4.25% to 4.50% for all members
Payroll Growth Rate	Increase from 3.00% to 3.75%
Mortality Rates	Decrease rates for male teachers
Disabled Mortality Rates	Decrease rates for males
Disability Incidence Rates	Decrease accidental disability rates for female teachers
	Increase ordinary disability rates for male and female state employees
Retirement Rates	Decrease rates for male state employees Increase rates at younger ages Decrease rates at older ages for female state employees Decrease rates at age 60 for teachers
Termination Rates	Decrease substantially for state employees
	Decrease for teachers

The Retirement Board enacted all of the recommendations of the Actuary with the exception of the investment rate of return which was maintained at 8.25%. All schedules in this report were updated based on the experience data and Board action taken in August and September 2004.